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"I cannot help plead to my countrymen, at every opportunity, to cherish all that is manly and noble in the military profession, because Peace is enervating and no man is wise enough to foretell when soldiers may be in demand again."—GENERAL SHERMAN.

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THE ARMY AS A FACTOR IN THE UPBUILDING OF
SOCIETY.

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O many the superscription of this article may come in the nature of a surprise, for while the people of the United States are not inappreciative of their fighting forces, they have not as yet been educated up to the point of regarding them in the light of agencies of social improvement. When we consider that the soldier's sphere of action is ordinarily so remote as to preclude anything like intimate contact or association with the great mass of the people, it is not surprising that such should be the case.

In time of peace the work of the army is conducted in a manner so unobtrusive as to escape comment except on those unfortunate occasions when its internal discipline brings some offender temporarily to the notice of the press. It is for this reason, primarily, that the popular conception of the army is less flattering than the work of that body would seem to merit. Unfortunately, too, the army has for years labored under the burden of a popular theory which relegates to it the function of a dump-ground for recalcitrants and derelicts, a theory which owes its origin, if such there be, to the days of other, and happily past, epochs.

With the rest of the world the army has advanced, and in its advance has lost none of the worthy traditions inherited from a sturdier if less erudite generation, and therein it possesses an advantage over contemporary society, for, con-

trolled, by the same civil restrictions, where society is but indifferently governed by a loosely constructed fabric of convention, the moral atmosphere of the army possesses the additional safeguard of a code whose transgression means disgrace and expulsion. Succinctly the atmosphere of the army of to-day is one of cleanly lives, honorable dealings and enthusiastic devotion to country, an atmosphere enforced by a system of rigid discipline whose object is the correction and encouragement rather than the punishment of the individual.

The effect of such an atmosphere on the young man who enters the service can but be beneficial and it is in this influence which it exercises over the characters, often during a formative period, of those who from time to time form a part of the service, that the army plays an important part in the upbuilding of society. As a vocation, it offers none of the brilliant opportunities to be encountered in civil life, a condition which limits the sphere of its influence to a class deprived of many advantages. That such is the case does not in any way detract from the meritoriousness of its achievement.

For the civilian, improvement of any description is to be obtained only by an extra expenditure of time and energy over that necessary to his maintenance, while in the army, whatever of improvement may accrue to the individual, comes to him as a part of his routine labor for which he receives compensation.

In order to properly evaluate the benefit of army influence over society in general it is first necessary to establish some standard whereby to measure the worth of man as a citizen, and to identify the results of army training with these standard characteristics.

Every race, indeed almost every age, of man has established for itself some such standard. These standards have of necessity been functions of the philosophy, enlightenment and necessities of the particular ages to which they have pertained and, obviously, have been ever-variable and ever-varying. A study of the various standards of well-defined ages, however, reveals the possession of much in common, and it is from these more enduring characteristics that we should form a standard for the evaluation of the desirable citizen.

In no age of the world has physical perfection failed of

appreciation. Greece was unstinting in its devotion to its culture and rewarded its successful attainment with extravagant honors. With Sparta it assumed almost the proportions of a religion. Rome delighted in the prowess of its gladiators, while feats performed in the tournament typified the ideal sport of the early European courts. Bodily vigor and strength wrested this country from savages, defended it in rebellion and against invasion, and has made it whatever it may stand for to-day.

With the dawn of civilization came its necessary concomitant—Law, and obedience to the law has been recognized as essential to domestic and foreign relations from their inception.

Love of country, to the credit of mankind be it said, is an almost universal characteristic of every people of every degree, and the pride with which each nation honors its defenders is sufficient to fix the place of patriotism in any standard of character.

These three characteristics, physical perfection, obedience to the law and patriotism, may be said to have received the sanction of ages as fundamental characteristics of the valuable citizen.

It is doubtful if these attributes, sterling as they are, would to-day be accepted as constituting the full measure of good citizenship, but, as furnishing the fundamentals for all true development, they must be recognized as virtues to be prized in the citizen of any day.

If we admit the truth of this assumption, the influence of the army becomes apparent when we consider the transformation which the raw material undergoes in the making of a soldier.

From the moment that the recruit enters the service the responsibility for his welfare is shifted from his shoulders to those of officers trained in the art of subsisting and maintaining troops. By them he is properly fed, clothed, housed and attended in sickness, and, in return, he has but to lend his will and energy to his instruction. In this he becomes the immediate object of attention of at least one officer and a dozen non-commissioned officers, all of whom add to their natural professional zeal a pardonable pride in the organization to which they belong. His instruction is given all the care bestowed by the artisan on a delicate part of a delicate mechanism for on the perfection attained by the individual de-

pendes the degree of perfection which may be reached by the company and thereon depends the professional reputation of its officers.

He is taught that cleanliness is essential to health and decency, and by constant cleanly association with others he comes to regard it not as an occasional luxury but as a necessary adjunct of his comfort. He is given substantial and becoming garments and is supervised in their care and preservation until such supervision becomes unnecessary. By instruction and example he is made to understand that nattiness and neatness in personal appearance are essential elements of respectability.

By judicious restraint he is taught the distinction between order as inspired by fear of the law, and order induced by pride and love of moderation. His life is ordered and arranged for him after the manner best calculated to benefit him and at the same time best subserve the interests of the military service. To this end he is subjected only to that restraint necessary to the observance of discipline. In the end he becomes habituated to cleanliness, order and moderation to the degree that the absence of any one of them is a source of actual discomfort to him. He grows to recognize that discipline is aimed as much at the misbehavior of others, whereby he may be discomforted, as at his own shortcomings. He learns to respect it as a protection rather than a menace, and in this knowledge he becomes possessed of the fundamental principles underlying all law.

In the meantime his physical welfare is the subject of careful consideration on the part of those responsible for his training. He is accorded much the same inspection a builder gives the material he puts into a structure, and, his defects once detected, he is given judicious exercise to remove or alleviate them. His food, plain and wholesome, is prepared in the manner best calculated to nourish him and his habits are so regulated as to build up his physique. Almost imperceptibly and perhaps entirely unconsciously, he is physically remodeled and developed. His rounded shoulders are straightened and broadened; his narrow, flattened chest is deepened and widened; his legs and arms are trained to respond with the minimum effort and maximum grace to every impulse of his will; his careless carriage and unnatural gait have been replaced by the healthy upright posture and

easy swinging stride that distinguishes the soldier the world over, and it may be that what he has regarded as a mere recreation has been the saving grace to his dormant tissue. Wholesome living, abundant exercise and orderly habits have imparted a healthy color to his skin and clearness to his eyes. The nature of his occupation has inculcated in him a spirit of confidence and self-reliance which make him a more forceful member of any profession he may choose to enter.

Morally he is not neglected, though in this respect his education is gained in great part by absorption from his environment. He is a member of an organized disciplined family, the comfort and security of which is dependent upon the honesty and integrity of the individuals composing it. The community character of the soldier's life furnishes abundant opportunity for petty dishonesty and it is the knowledge of this insecurity which leads soldiers to guard so jealously their common interests. By localization the insidious character of crime is more indelibly impressed upon them and thereby rendered more abhorrent.

In his daily duty the soldier learns that truthfulness is necessary to its proper performance. He comes to realize that the slightest deviation from the truth on the part of others may lead him into error and consequent punishment or may endanger his own and his comrades' safety. As a matter of self-protection he demands undeviating truth from others and the habit of truth-telling insinuates itself upon him until it becomes not a matter of expediency but one of natural inclination.

As a school wherein may be fostered and developed every sentiment of patriotism, nothing can surpass the army with its traditions antedating even the Republic itself. In his daily life the soldier treads the same paths over which countless heroes have passed before him. His daily associations are constant reminders of the achievements of those whose names live in the history of a grateful land. The uniform he wears has become a symbol of courageous devotion to the principles of the country he serves. In a measure he feels that he is an active factor in the making of history and in that history he takes the personal pride of the artisan in his work.

Nor does he abandon the habits formed or sentiments developed in the service when he separates from it. In a modified form, adapted to the circumstances of his new life and

surrounding, the army habits and training cling inseparately to him. It may be that he will never care to re-enter the service, but there will never come a time when the fluttering of his country's flag or the sight of his discarded uniform will not awaken in his mind cherished recollections of his military service or stir in his breast emotions which better fit him for the life of a loyal citizen.

Eventually the ex-soldier becomes the head of a family and the influence of his army training is extended to the domestic circle. His children are reared in an atmosphere of cleanliness, order and discipline. In the child is reflected whatever of patriotic sentiments the father may cherish and in the unconscious hero-worship of the child these sentiments are exaggerated and intensified.

The number of men so trained and returned to civil life, while not large, is nearly unvarying and in time is sufficient to constitute a considerable factor in society. In round numbers a third of the army annually leaves the ranks to engage anew in civil pursuits. In the course of ten years an army of nearly two hundred thousand men is distributed throughout the land to enter the life of thousands of communities. If we are to believe that a majority of them assume the responsibilities of the citizen in all that it implies of domestic relations and public-spirited effort, the influence of the army is seen to cover a large and comprehensive area.

Of the class who do not so return to civil life, but who remain in the army to make a life work of it, the army and the country have no reason to be other than proud. In the nature of things there must be in every generation a proportion of misfits which through misfortune or lack of advantages finds itself left behind in the race of life. Such a fate does not necessarily imply a lack of worth or ambition, but, too often, simply of opportunity. Many such find places in the army and in the profession of arms find a congenial calling which, while not brilliant or remunerative, is honest and honorable. In it they are respectable members of society, leading honorable independent lives and standing ready in emergency to give value received to the country they serve.

Among those returned to civil life from the army is a class to which disparaging reference is too often made. I refer to those unfortunates who have dishonorably terminated their connection with the service. The published statistics of this

class can hardly be accepted as a fair criterion of the amount of crime in the army, for the reason that many such discharges are the results of purely military offenses and are without criminal significance. In the majority of cases the punishment is the result of an inability to adjust the previously conceived ideas of personal freedom to the moderate restraint of army discipline. Many of this class realize when too late the error into which they have fallen and would gladly re-enter the service if permitted to do so. In every military prison there are scores of young men who would undoubtedly serve honorably and with benefit to the army did the military code permit of their re-enlistment. The majority of those returning thus to civil life bear no resentment toward the military service and realize fully that they have only suffered the penalty of their own indiscretions.

It is with a degree of trepidation that I approach what seems to me to be a logical deduction. The advocacy of anything savoring of compulsory military service is a challenge to American sentiment and tradition. Commercial enterprise is quick to brook interference with its progress, the more especially, when such interference is not productive of at least prospective financial benefit. The average American is intolerant of anything which restrains him in the full exercise of his own free will. Such a sentiment combined with lack of education and its accompanying disadvantages can only result in the spirit of lawlessness with which the public is already too familiar. The protection of life and property in the large cities has developed into a situation with which the police facilities seem unable to cope. The problem might better be solved by preventative than by punitive measures. If a term of compulsory military service of one, two or even three years would result in the physical and moral improvement of the individual; if it would inspire him with a more profound respect for and obedience to the law; then commercial interest might well afford the temporary inconvenience of such a separation in view of the advantages to be derived from the service of a superior class of trained and disciplined members of society.

If we are to believe that sturdy physiques and sound personal principles are valuable assets in the manhood of a nation, the conclusion seems to point persistently to something akin, at least, to the military training of youth.

The army is an expensive institution whose periods of active

service are, happily, separated by longer periods of peace. Its maintenance during such periods of military inactivity is a question of political expediency which does not permit of argument. Its function during such periods cannot justly be characterized as one of passivity, for it is ever busied with careful, conscientious preparation wherein it can never hope to attain a permanent degree of perfection, but must content itself with the molding of raw material into more perfect manhood and distributing the results amid the ranks of society.



Silver Medal Prize.

THE EXPERIENCES OF OUR ARMY SINCE THE OUT-
BREAK OF THE WAR WITH SPAIN: WHAT
PRACTICAL USE HAS BEEN MADE OF THEM,
AND HOW MAY THEY BE FURTHER UTILIZED
TO IMPROVE ITS FIGHTING EFFICIENCY.

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IN order to intelligibly discuss the conclusions and the benefits to the army that are to be derived from our experiences during the Spanish-American War, it appears to me well to revert, first, to the conditions that developed at its inception and during its progress merely as matters of fact; second, to enumerate the primary and most important things learned from these developments either by the army itself or by the people at large, together with some results already achieved; third, to state what will, apparently, be the results, in the near future, from the awakening or reawakening to realization of our military weakness, judging from past experience and present tendencies; fourth, to point out some of the lessons yet to be learned by or, at least, to be solved by the army for the benefit of our service and the people, proposing, briefly, some solutions for these problems.

To the army it was no discovery that at the outbreak of the war we had not sufficient force of either officers or enlisted men with which to prosecute it, or that our organization was faulty and unfit to withstand the strains of active service. Neither was it any secret, for the army had been, for years, proclaiming its belief, producing arguments and proofs to show that these weaknesses existed, and insisting, in the modest way in which our military arm must always work, that its numbers were totally inadequate and its organization obsolete, rendering difficult the carrying on of its work, even considered only as that of a highly trained nucleus in peace

times. In spite of some boasting, in the early days, that one American soldier was equal to ten Spanish and that 15,000 troops were an abundant force for the quick reduction of Havana, it may be said that the first act of hostilities served to show the country a portion of the fallacy to which it had clung by failing to heed the warnings of its soldiers in the years past. Later, the threatened descent of a Spanish force upon our Eastern seaboard, ludicrous as it now appears, in the light of subsequent events, produced a condition of panic fear in a section of the country where I had heard men of intelligence and public standing declare, two years before, that the American people, rising *en masse*, armed only with scythes, could beat back any foreign invasion that might ever be made. Under the driving force of necessity, therefore, the belated increase and reorganization of the army began. It is needless to use space here to describe the condition that resulted, further than to say what the army saw then, that attempted reorganization after war begins produces a state that would be better described as disorganization.

Depending, as always, upon volunteer levies for the main strength of the large army required, the organization of these forces began in the greatest possible haste, and developed all the well-known weaknesses inseparable from such a system. Men absolutely untrained and inexperienced in matters relating to the profession of arms were commanded, mainly, by officers as untrained and inexperienced as themselves. It was recognized that a leavening of regular officers should be added to this force, but so keen is the civilian to preserve his right to exercise military command upon opportunity that Congress was called upon to pass, and did pass a law limiting the number of Regular officers that could be used with Volunteer troops to two per regiment. Even this small number could not obtain places, so great was the objection made to their use and, consequently, the leavening process was almost inappreciable. Furthermore, the addition of these Regular officers was made in so irregular a manner, owing to a total lack of all previous plans for their advancement, that two anomalous and weakening conditions at once developed. First, nearly all fell under the command of civilian Volunteer officers. Second, these promotions and appointments, being made by favor of one kind or another, young subalterns of perhaps only a few months' service were frequently jumped into comparatively

high command rank, while officers of long service, experience and really tried ability suddenly found themselves junior in rank to and actually serving under youngsters who had barely begun their novitiate in the high calling of arms. When the natural disappointment at the passing of what might be truthfully considered "their lawful occasions" had somewhat subsided, officers of the Regular Army began to find that it was, perhaps, well for their organizations that no more were taken for this purpose, because the number with troops became so depleted, from various causes, that, considering the influx of recruits to the ranks and the reorganization muddles, the efficiency of the army began to be seriously impaired.

The National Guard had formerly looked upon itself as in the forefront of forces prepared for filling honorable positions in war time, but when need came, they were not found to be fitted and, after many furious controversies, were entirely disregarded.

The Regular Army was looked upon as a force which, though small, was in the highest state of training and efficiency. So far as concerned the interior economy of the army under its peace organization, this was true enough. But to meet its expanded state and a supposed readiness for war, it was not true. Mainly the fault for its unpreparedness must be laid at the door of Congress—that is, of the people themselves. The latter are ever prone to disregard the advice of purely military men and to prefer ideas of easy faith in the future, while Congress cared more for a record of economy, which was popular where military matters were concerned, than for the careful provision demanded by wise forethought. Guns and ammunition for the artillery had not been provided, either of sufficient quantity or of modern character. We possessed a good small-arm rifle, but not in anything like the numbers required to equip the force we proposed to raise. The bulk of our army, therefore, prepared to take the field armed with an obsolete and antiquated weapon, using ammunition totally unfitted for modern conditions. Before the war was over it even began to be suspected that our best was inferior to the arm of the enemy against whom we were pitted. Stores of proper clothing and food were not at hand, and plans for their acquisition had not been made. Plans for the transportation, mobilization and encampment of the forces had not been provided and those hastily decided upon

often broke down under the strain imposed upon them. For a part of these deficiencies the army itself was not entirely blameless. Another weak point in the army, which soon resulted in a fracture, was in the supply and administrative departments. Under the system then existing the officers of those departments were appointed for a permanent tenure. Whether true or not the rest of the army generally considered that these appointments were made as the result of favor and influence. At any rate, the departments were very close corporations and the officers of the line were prevented from acquiring much knowledge of their workings. Between the line and the departments there was little or no sympathy. Although there could be no doubt that the departments were created for the purpose of serving the line of the army, that object had long been lost sight of, and the departments had grown seldom to seek the advice or consider the needs of the line. Great stress was laid on the value of long tenures in having made experts of their officers and on the consequent impossibility of displacing or replacing them. Nevertheless, when war became certain, large numbers of these officers, seeing greater individual glory and gain in service with troops, sought to return, and many did return to the line with all the advantage that whatever influence might have accrued to them could give. Thereby officers of the line were shut out from positions that they had hoped and believed themselves entitled to fill, while the departments, which should have been awake and alert and straining every fiber to equip and care for the army in the field, were crippled by these withdrawals from their ranks of officers who claimed to be, and doubtless were, experts in the work they were now leaving to be performed by officers of the line with little previous experience, and by civilian appointees with absolutely none. Among the acts of army officers perhaps none were considered by the army to be more reprehensible than this.

Finally, under numerous handicaps, thus imposed, month after month was frittered away and lost in attempting to complete the necessary reorganization and training before the army could take the field.

From these experiences a number of lessons have been more or less well learned, either by the army alone or by both the army and the people at large. Among these the first to be made so plainly evident that it could not be evaded was that

we needed a more numerous army. Hence there came about a permanent increase in the force.

It was seen that plans must be made and organization completed, as far as possible, before the opening of a war, and for this purpose, mainly, we have created a General Staff. Further, it was demonstrated that the old volunteer system is ineffective for ready use.

The National Guard must be put upon an entirely new basis.

Material for an army at probable war strength must be provided beforehand and kept well up to date.

Plans and practice are needed in transporting, mobilizing, camping, subsisting and handling troops in large numbers. Some of this is now being accomplished in the annual maneuver camps.

There should be as wide as possible a dissemination of knowledge pertaining to the proper conduct of the supply and administrative departments throughout the army. For this reason the detail system has been inaugurated and is now in operation.

These departments require a real devotion to duty of the officers serving in them, and must not be crippled by their withdrawal, in war time, in any case not manifestly for the greater good of the service.

The army should not be prostituted to pay the debts and favors of any political party or person.

Time must not be wasted in training after war begins when it is in any way possible for training to be finished before.

Admitting, now, that certain things were found to be true, and that, from these, certain lessons have been learned, it will be well to inquire how deep and lasting are the impressions these lessons have made.

With the present ideas in vogue of shaving down the numerical strength of the army to as nearly as possible its minimum limit, its training is once more carried on under very considerable difficulties. With a strength of a company fixed at a maximum of sixty-five, after making allowances for its being hardly ever continuously filled, the number of men daily deducted for guard duty, fatigue, extra and special duty, sick in hospital or quarters, kitchen police, room orderlies, etc., cut down its strength to such an extent that the number available for drills is, ordinarily, about three squads. By such con-

ditions the regulations duly provided for its training are, in a measure, nullified through the impracticability of carrying out or even illustrating the intentions of the regulations with such small units. The proposition has frequently been seriously put forward to prohibit re-enlistments, on the theory that enough benefit would be derived by the whole country, by thus increasing the number of men who would have experienced three-years' training and then returned to civil life to more than counterbalance the ill effect on the army of losing the services of the experienced old soldier. Rather than commit this error it would be of far more benefit to increase the number of men in training by filling up the ranks and allowing a sufficient number of men to properly handle the tools and the methods that are put into their hands to use.

Under the old *régime*, before the Spanish War, the service suffered from a shortage of officers with nearly all organizations. After the recent increase and reorganization it was hoped that this impediment would be diminished. But new fields of necessary labor have developed and, as the number of officers increased, their duties more than kept pace, both in number and severity, and the number of officers now on absent duty leaves the organizations in as poor if not worse condition than they were before. Battalions are being commanded by captains who have also to perform the duties of company commanders. It is a rare thing that a company has its full quota of officers. Much oftener it has only one, and it is not an infrequent occurrence when there are none. Officers are therefore frequently being moved about from one company to another, in order that someone may be in command, and so frequent are the changes that officers are seldom able to become acquainted with their commands. If a battalion finds itself alone for a time some of the companies are apt to be compelled to stagger along without an officer in actual command. All of which makes for rapid deterioration. At present, as in the past, efficiency is being sacrificed to economy. There are various ways in which the shortage of officers could be remedied. For instance, the vacancies caused with organizations by the withdrawal of officers detailed for duty on the General Staff should be filled as is done in the similar cases of officers detailed to places in the Department Staff. A portion of these needs will be thus looked after, perhaps, but it is scarcely to be expected that anything like complete relief can be soon provided.

As for the General Staff, it appears now to be satisfying the needs of the service as rapidly as circumstances will permit, and must be allowed to prove its future usefulness. There is no doubt it will go far to provide adequate plans for organization and preparation for war conditions, but in order that these should be complete and thorough in every respect requires an education of the people to an appreciation of the real needs of the military branch of the government that only time and constant effort can bring about.

That the old volunteer system will take its place in the background, to provide a final reserve, must be insisted upon, but will meet with such resistance as to long delay its accomplishment.

While the National Guard has been strengthened, it possesses such inherent and apparently ineradicable weaknesses that its usefulness is seriously impaired. It is not truly national, and no State force can well become immediately effective for the prosecution of a war.

We may congratulate ourselves that the material of the army is, in the main, well up to date. With the close touch now in existence between the line and the departments, the interest of each in the other is likely to keep it so and, probably, improve it rapidly unless a reactionary spirit again secures the upper hand.

In this very improvement the detail system has already demonstrated its usefulness and, possibly after some modifications, will continue to do so unless the reactionaries should succeed in upsetting the whole system or details be allowed to repeat themselves again and again until the real good to the army at large is lost.

That the departments will still lose some officers at the outbreak of war is to be expected, but it is to be hoped the evil will not again be so great. At least, if the detail system is allowed to carry out the original intention of its creation, there will always be a much greater number of experienced officers in the army who will be able to take up the work at once, when called upon to do so, instead of merely doing the best they can until costly experience has been gained.

While everyone, civilian and soldier alike, will admit the desirability of keeping the army clear of politics, and political and social influence, it is not to be expected that it will ever be completely so. There is this to be said, that the more

nearly we are prepared with our plans, and the less confusion we can have at the outset of war, the less will be the influence of the politician at that critical moment.

Finally, the time lost in training, at the next call to arms, will depend upon how well we have organized and laid our plans beforehand. In other words, how much we shall learn of what we have yet failed to learn, and to what extent we shall be able to enforce the application of these lessons.

In the discussion of matters of which we have yet to learn it must be considered that this is only a convenient expression to describe an existing state. It is not meant to imply that all these matters have not been learned by the whole or, at least, a part of the army. The trouble may often lie in the non-application of a thoroughly recognized principle, and the non-application may be the result of preventive conditions in our national life, or of other obstacles entirely outside the limits of army activity. But to learn signifies learning by the non-military citizen as well as by the soldier. There are but few of the officers of our army seeking merely personal advancement. As a body they have only the best interests of the nation at heart, and when the realization of their desires for the nation's safety and progress depends upon the enlightenment of the civilian body it is the duty of the army to lend its every effort to promote such instruction.

At the very threshold of inquiry lies the most serious problem of all, for which, as yet, no satisfactory solution has been adopted. That is, how to have ready, at the beginning of hostilities, a sufficiently large force to oppose to that of any power with which we would probably find ourselves at war. It is one of the conditions of our national life that we are now precluded from maintaining, in peace times, an army of anything like sufficient strength to take and keep the field, alone, against that of any other real power. Barring this solution, therefore, it is an imperative duty to find another that will provide us with some adequate force that may be quickly added to the Regular Army when necessary, and that will prove to be immediately effective. The value of a volunteer force, as an adjunct to the military arm of our country, is indisputable, but we have made the mistake of regarding it, not as an adjunct, but as the force of first and main reliance. We need not prove that it cannot form the first line, which will have to meet the shock of combat with troops of modern

military training, or that it cannot be regarded as the backbone of our army. That has been proved, over and over, by experience. In any international disturbance we must stand ready to meet the shock of battle at a very early period. We must be prepared to look upon the preparation of munitions or the mobilization of troops as the immediate forerunner of action. The beginning of the war now in progress between Japan and Russia is no isolated case. In all wars of recent date acts of hostilities, often amounting to actual combat, have taken place before a formal declaration was made by either side. Volunteers, as we understand the term, cannot be called upon until war is assured or, in other words, until war has begun, and then the mobilization, organization and training of such an absolutely raw force is slow and laborious. Before they can be put before the enemy in the field, with the slightest hope of accomplishing anything with them, several months will have elapsed; but several months will not have passed before we shall be forced to meet and engage an energetic and ready foe. What other force, then, can we use?

The National Guard has now been placed by law on a semi-national footing, and has been stiffened and better provided for. If it could be really nationalized, careful and diligent handling might create a force of considerable potentiality that should be able to take the field much more quickly than volunteers. Yet it must not be forgotten that it is subject to many decided limitations. It is and always will be a state force. It is essentially a popular organization and must remain so, for it depends upon its popularity for its strength of numbers and apparent success. We may pass over its minor faults, such as the popular election of its officers, as matters permitting of remedy. But there are fundamental weaknesses that do not admit of any remedy. Its members, men with no other military training, are habitually engaged in various civil employments that were first, and must remain first in their consideration. To weld them into a homogeneous and effective force demands that they be compelled to devote a considerable part of their time to the work of the soldier, and as the Guard is further nationalized and improved, this demand will become more imperative. But step by step with this growing demand grow civil conditions that will make it more and more onerous and difficult for the guardsman to comply with. The use of the Guard as a police force brings it into conflict with a

section of the population that resents and threatens its very existence. As this section is growing in strength through the powers of trades-unions and the immense weight with which they are beginning to be credited in politics, their opposition may well be considered serious.

The experience of recruiting officers, inspectors of the National Guard, and particularly of those who have examined and mustered in volunteer troops, shows that Guard organizations find it necessary to accept a large number of men who, judged by service standards, are of inferior physical quality, and whom therefore the government must reject at the last moment, when they are called into service. Another large class, who can and do serve well enough as guardsmen, find, when called upon for service in war, that they cannot comply with the summons, and no number of laws and regulations will prevent the necessity of excusing them. Owing to these causes, the strength of the Guard, when most needed, is greatly and unavoidably diminished.

In view of these objections to the present methods of raising a supplementary force, there is a vital necessity for organizing a true reserve of men who shall have enough training to be immediately available at the outbreak of war. I am not for the first time proposing the formation of a Veteran Reserve, but the necessity seems to me so great that the idea and the plans for its organization should be kept constantly at the front. There is now a splendid force of trained and disciplined men, consisting of those discharged from the army upon expiration of term of service, literally going to waste for want of the attention and the small amount of legislation and expense necessary to conserve it. Under our system, since all service is absolutely voluntary, it is not possible to form from these men a compulsory reserve unless we are willing to adopt some form of conscription. Nevertheless, it seems reasonable that a large part of the men who have had from three to nine years of service and know what the army really is would voluntarily enroll themselves as members of a reserve whose exactions are but a fraction of those demanded by constant service with the colors, for a cash compensation which, though small, would be an inducement for them to keep the War Department informed of their whereabouts and to be prepared for the few duties they would be called upon to perform between the dates of their discharge from and re-entry into active service. It is probable

that a very few years would be sufficient in which to thus enroll a reserve of such numerical strength that, making allowances for all necessary deductions, it would be able to take the field with at least the strength at which the Regular Army had been previously maintained. Of course its members could not remain reservists, the rest of their lives but, within reasonable age limits, they would have the advantage over all other reserves of having been once thoroughly trained in a system as complete as any of its kind in the world, the effect of which would never be lost upon them. With proper plans for their mobilization, stores for their equipment in readiness, and capably officered according to a rational system, they would be ready to take the field with very little delay.

Within the limits of this article it is not practicable to go far into the details of plans for the organization and handling of such a force. It will not be amiss, however, to say that its higher officers should come from the officers of the Regular Army, according to a fixed scheme which will keep them always in readiness and will put the seniors at the head, so that all grades throughout the army will be equally benefited. The lower grades should be filled by duly qualified enlisted men of the army, and by civilians who have received training at a military school or in some similar manner. In this way the proper ambitions of all officers will be stimulated and the men will find themselves under officers who are fitted for command and in whom, from the first, they can feel complete confidence.

For the Regular Army itself, some reformation must be made looking toward keeping the various commands more nearly intact, and at such a strength that their training may be a real preparation for war service; otherwise they cannot be brought to that state of readiness expected of them. And when the critical time comes, if we are in any wise lacking, it is we who will bear the blame, no matter who may be really at fault. The wish to cut down the strength of the army to its lowest possible figure in order to produce a favorable political impression must, if we are to have a truly effective army, be subordinated to the needs of the service. It is only on the stage that the ideally perfect army exists without commanding officers and enlisted men. At present our military workers are in a position somewhat like that of the Israelite brickmakers in Egypt—they are commanded to

make bricks without straw. Is the artilleryman demanding too much when he asks for men enough to handle his guns, or the cavalryman or infantryman when he asks for enough men to enable him to drill his troop or company correctly in the movements prescribed by the drill regulations? Speaking for the infantry, the captain should have available for drill, at most times, eight squads. As that calls for sixty-four men, if the squads are complete, it cannot be done with a company whose maximum limit is sixty-five. A company whose limit is the latter number is usually recruited to about fifty-seven, actually, and turns out three squads for drill. If the present methods were followed in every respect, about one hundred and twenty men would be required to furnish eight squads. If proper provision were made for workmen, a strength of eighty would be amply sufficient. Habitually, the place of the soldier is in the ranks of his company, clothed in his proper uniform and being taught the management of the weapon that is given him to use; not in the grimy habiliments of a coal heaver or a ditch digger, engaged in labor that is distasteful to him and which he does at the expense of his own and his company's efficiency. Mechanics, plumbers, blacksmiths, carpenters, painters, teamsters, laborers, whether their labor is that of a stevedore, a storekeeper or a clerk in an office, should no longer be taken from the ranks of the fighting men, but should be furnished by an army service corps, enlisted for those very purposes. The demoralizing extra duty and extra duty pay should go, and there should be few men on special duty. A great part of the fatigue work, whether old guard or extra, should likewise be taken over by the enlisted laborer.

In attempting to improve any branch of the army, moreover, we must avoid the error of supposing that one can be improved at the expense of another. For example, everyone concedes that the Coast Artillery must be greatly augmented, but this increase must not be accomplished by diminishing the mobile army, small as it already is. The proposal to do so has been explained by the statement that the Navy and Coast Artillery should be made so strong as to hold off an attacking enemy long enough to allow an army of militia and volunteers to be organized. Such are the views of a non-military man who wholly overlooks, at the outset, two vital truths that baffle the accomplishment of such a plan.

First,—two of our four lines of frontier are wholly land lines, where battleships and heavy artillery would be of no more value in resisting an invasion than the pawns of a chess board. What is to stand along those thousands of miles while raw levies are being formed and trained? Field artillery, cavalry and the chief arm of defense, infantry.

Second,—no war was ever won on purely defensive lines. To speak of confining our warlike operations to defense is absurd. Forces should be provided for offense as well as defense in order that, if forced to go to war, we may end it as quickly as possible by assuming the offensive. Nothing will ever illustrate this fact better than the Spanish-American War. It was quickly completed to our advantage, but not by the navy and heavy artillery. The latter had no part in it. Had it been left to such a course it would have dragged on at an expense of millions on millions of dollars, and, finally, we would have had intervention by a combination of other powers. Instead, every blow by the navy simply opened a demand for a mobile army to complete their work and to make it decisive. In both hemispheres arose a call for an army of the mobile arms that had to be answered. Volunteer troops could not then fill the requirements, nor can they do so in the future. Troops handling weapons and methods of a more technical character than those in use by the infantry must, indeed, be kept up; but it must not be forgotten that the latter has also to undergo its technical training, and that it must be maintained in a state of readiness and in reasonably large numbers. The two armies we sent forth in 1898 were composed chiefly of that arm, the main strength of offense as well as of defense, since no offensive movement can be driven home and made decisive except by infantry.

Reference has already been made to the deplorable lack of officers and the necessity of providing a greater number on duty with troops. In the first place, the training and the work of the officer should be in affairs military and not civil. The retired officer may, in many cases, be able to satisfactorily replace his brother on the active list so as to allow the latter to return to really active duty. But if the vast amount of collateral duty requires the services of so many active officers, the number of them must be correspondingly increased. When places are to be filled by the detail of officers for a con-

siderable time, or are filled continuously by the detail of one officer after another, such as positions on the General Staff, or at military colleges and schools, provision should be made for filling the places made vacant by their withdrawal from duty with troops by promotion as is now done in the similar case of details to the department staff. The tale of bricks will be neither complete nor flawless unless there are an adequate number of brickmakers as well as a sufficient supply of straw.

The General Staff and the detail system for the departments are too new to warrant serious adverse criticism, and the complaints now made in some quarters must still be considered as lacking sufficient foundation. But the handling of detail privileges in the past should warn us to be on the lookout for one pitfall that may, if it be not avoided, wreck the whole well-ordered machine. Despite laws and regulations designed to repress them, there have always been a number of officers who are detail and special duty seekers by nature. Laws, orders and regulations are set aside or evaded for their benefit. Having once secured a detail, it is either renewed at the expiration of its original term or they go from that to some other in spite of any and all enactments that they shall return, at stated periods, to duty with troops. For these officers the new and numerous places opened to them under the recent detail reorganization will afford choice picking if firm measures are not adopted to prevent it. It is possible for them to defeat the entire object of the detail system by extending the class of detail officers so that the positions will constantly rotate among them, thus cutting off the proper aspirations of others and excluding the great body of the army from obtaining the knowledge that should be as widely distributed as possible among its officers. The hope of the army may thus be made its curse. The operations of a detail system so deflected from its proper course would be worse than the former system of permanent tenures.

A desire for personal renown and advancement, like the desire for money in civil life, is, with us, one of the main-springs of military accomplishment. This ambition is the result of centuries of precedent and training of our race. Like the craving for fortune and the power that money gives, it seems to us, within certain bounds, to be commendable. At any rate, rank, power and the plaudits of our fellows are

the blinding lights that lure us on, and, right or wrong, he who does not seek them is considered by the world to be lacking in strength. But again like the lust of gold, this ambition unchecked involves wrong, repression and ruin somewhere. It may not be clear, at first sight, how such an ambition can prove a detriment to the army and the country that it nominally serves, but no other illustration is here needed than to point again to the serious crippling of important departments by the voluntary withdrawal from them of officers, at the outbreak of war, to positions that seemed to them to open the way for the gratification of these ambitions.

I have attempted, so far as possible, to avoid introducing illustrations and incidents observable in the conduct of the Russo-Japanese War, for a number of reasons. First, I wish to avoid every word and sentiment that smacks of partizanship. Second, it is human weakness to blindly run after and attempt to copy the apparently successful. But the fact is that it is also our duty to soberly reflect upon the lessons the Japanese have to teach us, and to try if we cannot help ourselves by them rather than to close about us a shell of racial prejudice and imagined superiority. As matters now stand, they are successful and, no matter what may be the final outcome, they have astonished the world by winning, from the apparently impossible, a success that can never be denied them. It is well for us to inquire what are the traits and the methods by which this success has been won, and to try how far we can engraft them upon ourselves for our own benefit. It is admitted that one of the strongest points of Japanese character is the desire, when fighting is to be done, to be in the ranks of the fighting men and to lay down life, if need be, for Japan and the emperor. But it is equally agreed that no unsightly scramble for place, power and popular applause is taking place. No matter where placed, it is expected of the Japanese that he will do his work with the interest, the zeal and the completeness of every other man. Every part of the army must do its work as well as every other part. Where every man belongs to the gods there is small room for the little hero we one day set up and the next cast down; beside their broader sense of purpose our uncertain and evanescent rewards seem cheap and tinsel. Our training has exalted the individual above the collective—above the community and the state. Theirs has submerged the individ-

ual in the state—he exists only for the public good. When need comes again will we have learned to submerge our now triumphant individualism so far as to allow the common good to rise above personal ambition?

Closely connected with this subject is the problem of keeping the army free from political influence. The point at which our political system has arrived seems the very apex of vaulting individualism. Try as we may, the army cannot be kept very different from the remainder of the people surrounding it, for it comes of the people and the people wish it to be more and more their own. Politics furnishes the means for gratifying the ambition of the individual in, as well as out of the army, and no system invented by our race furnishes a solution. The outlook does not seem bright, for when an attempt is made to free one part of the military system from political influence, some other portion will be found to be suffering the horrors of a prostitution worse than ever before, the relief of one part and the oppression of the other, perhaps, bestowed by the same hand.

The question of transportation for the army is deserving of more attention than has yet been bestowed upon it. For convenience of brief discussion the subject may be divided into four classes: marine, wagon, rail and pack transportation. The Spanish War and the Philippines have led to the development of our deep-sea transportation from nothing to a very efficient and satisfactory service. To claim perfection for it would be too much, but, considering our total lack of experience in 1898, the rapidity of its development has been remarkable. We have only to remember our woful experience with chartered transports in 1898, to urge us to resist the efforts of private interests, operating politically, to have the Government transport service discontinued for their benefit. Little need be said of wagon transportation which, for its own use, has stood a long and severe trial.

By pack transportation I mean any means of transporting property in small loads so as to obtain the maximum of mobility. The method most familiar before the Spanish War was by pack-mules. Philippine experience has introduced to us the pony cart, the coolie bearer and the burro. But practice in the use of any and all these means has been sporadic and intermittent. They should not be left for application only at the last moment, depending upon invention to maintain the

relation of dutiful son to necessity. All are useful and necessary under various conditions, and their use should therefore, be made more familiar to the army at large.

It is in the matter of transportation by rail, however, that we are most careless. All this business is, necessarily, done by contract with corporation-owned roads, and therefore but little real study has been put upon it by anyone, in the army or out. When troops or property are to be moved the chief concern of the army supervisors of the movement is to get the necessary papers accomplished in an exactly proper manner. Of the railway company, to fulfil their contract with the least possible trouble and expense to themselves. That is, of course, only a matter of business. Neither party, therefore, has seen fit to look forward to the coming of inevitable emergencies, or to provide for their handling in such manner as to prevent congestion of traffic, bring troops and stores forward without delay and deliver them without confusion. Rail transportation is our chief means. With the wide expanse of our country and its many lines of railway, it concerns us more than any one, perhaps of all the other methods, and we must give it the attention it demands.

Frequently as troops have been transported by rail in the last six years, it would seem that everyone should have gained knowledge and formed plans that would prevent hesitancy and confusion in, at least, the entraining of them. Yet how often do we see commands performing this initial step of a journey by rail with less preparation and order than are ordinarily manifested in the loading of horses! Arrangements made without reference to the commander of the troops to be transported are therefore more or less unknown to him. If fortunate enough to find their trains and baggage, there is no guarantee against hours of fruitless wrangling over inadequate car space or berthage, the order in which companies are to entrain and the cars to which each is to be assigned. If the amount of baggage will not allow of the use of a baggage-car as a commissary and kitchen-car, no provision is made for the extra space in the others to accommodate these necessities. Car porters are left to be provided for by the troops at the expense of their own comfort. When, finally, the task of entraining is accomplished, everyone concerned is tired and disgusted. The needs of the troops should be consulted and the control of their commander should begin at an earlier period—long

before the command reaches the entraining station. Then everything will be known beforehand—the exact number of cars and the equipment of each—and timely corrections can be applied. Each troop car can be marked with the exact number of men from each company that are to occupy it, and the work of entraining any body of troops should consume but a few minutes.

One more question of detail to be carefully considered is that of obtaining the best quality of enlisted man and of developing the material so gained to the highest degree. At the very beginning of this subject I wish to repeat the appeal so often made for a military prison. The necessity for this seems so patent to all officers serving with troops that it is scarcely necessary to reiterate it here, but the appeal has been made again and again, and has not been answered.

It is inevitable that all sorts of men—good, bad and indifferent, should enter the army and should be disposed of in a manner analogous to dispositions made in civil life. The good men go forward in the army or leave it, the better for their service. The bad follow their evil impulses, to their eventual undoing; and the indifferent must be carefully tended to prevent their becoming of the bad rather than the good. In civil life, throughout the country, criminal affairs are so handled that there are both penal and correctional institutions provided. The lad who steals a pie is not incarcerated with the burglar or the murderer. In the best ordered systems there are industrial schools, reformatories, intermediates and penitentiaries. The system is carefully designed to save the young and those guilty of minor offenses from the contaminating influence of the hardened criminal, and to aid them to live right. Yet, as the army guardhouse now exists, it houses and herds the deserter, the drunkard and the hardened offender on long standing, together with men not at all criminal, but guilty of some lesser dereliction that necessitates their confinement as an example in the interests of justice and discipline. Besides this the prisoners require the services of a large number of soldiers to guard them at work, taking these soldiers away from their proper duty with their companies and imposing upon them a hard and extremely disagreeable task. The work the prisoner performs is called hard labor, but is usually lighter than that of the sentinel who guards him. There is always danger of a prisoner's escape, with the certainty that, if he

does, the sentinel will himself be confined in the guardhouse and have to stand trial on a serious charge when, perhaps, no guilt attaches to him. All general prisoners should be removed from post guardhouses immediately after trial and confined in real prisons.

The positions of non-commissioned officers, in our army, are not of sufficient value to be an incentive to enlisted men to work for them and to keep them, once they have been obtained. Now, even the position of sergeant is so lightly valued that men holding it are perfectly willing to lose it through transfer or neglect to re-enlist at the merest whim. To begin with, the increase of pay over that of a private does not compensate for the additional work and responsibility. Second, there is not the proper provision for the further advancement of non-commissioned officers of special merit or long and faithful service. To illustrate the underpayment, one may cite the anomalous case of a post quartermaster-sergeant and a civilian clerk employed in the same office. From the very nature of things the sergeant must be the responsible man, and the clerk must be, more or less, his subordinate; yet the clerk is paid a salary more than double that of the sergeant. In justice to all, let all salaries be commensurate with the value of the men required. It will require an increase in the salaries paid to all grades, but men of worth are able to command more money nowadays than when the present schedule was fixed, while the cost of living, especially in the case of an officer, has vastly increased.

The opportunity for men in the ranks to obtain commissions, as it now operates, benefits a special class of young men, most of whom enter the army with that as an object. They remain in the ranks but a short time and do not aid materially in building up and improving the service. The old, long-service non-commissioned officer whom it should be our duty to encourage and reward is not benefited in the least. The places are not open to him. All he can now aspire to are the few places on the post non-commissioned staff. Something brighter should be held out to him. With the organization of a veteran reserve, such men can be assured of positions as officers in the lower grades of the reserve should it be called into service. Warrant rank, such as exists in the navy, may be established for the more immediate and certain promotion of those proving themselves qualified and

worthy. These warrant officers would serve the further useful purpose that they might be able to relieve some of the active commissioned officers now engaged in collateral work, and so allow them to return to their more legitimate duties. Further, they would be a splendid source, in war time, from which to provide officers of reserves and the extra officers inevitably needed in the supply departments, where their experience would stand them in good stead and render them invaluable servants. With these things to point to we can raise the dignity and the valuation placed upon the position of the non-commissioned officer, and thus elevate, at a bound, the whole purpose of the enlisted force of the army.

But at the very foundation of all hope of improvement is a quality the lack of which will handicap our every effort. In our zealous support of the democratic theory we have come to feel some scorn of the term "*esprit de corps*." But there is such a quality; it is meritorious and deserves cultivation. Perhaps it would be better to describe it by another name. Let us speak of the development and maintenance of an enthusiastic spirit. It is, so far as concerns us, a form of patriotism. The American believes his country is, or he would make it the best in the world. To the army man our army is, or should be, the best. To the infantryman his arm should excel all others in the army, his regiment be the best in the service, his company the best in its regiment. He may, perhaps, not always feel that his organization is the best, for that belief may take the form of failure to improve, and so result in dry rot. But he must be on the lookout for opportunities to lend his aid to put it at the front and, thereafter, stand ready to keep it there by meeting and vanquishing all comers. There are a thousand methods for promoting such a spirit that will occur constantly to one who is observant. Scoff as we may at tradition, it produces effects that are attainable in no other way. It is right for us to know and take a pride in the accomplishments of those that have gone before us. The hardships endured, the battles fought and the victories won by our regiments and companies in the past have been endured and fought and won by our forefathers in arms. Let us make them our forefathers in sentiment as well as in fact. We will rapidly do so if the opportunity is given us. Every regiment in the service should have its history written in such a way as to make plain that of each company that

composes it. Not as a mere dry, dead tabulation of facts, printed in a pamphlet and laid away as soon as off the press, to mold in among official reports; but as a history is written to secure readers and to interest and arouse in them a pride that they are heirs to the fruits of great deeds. Let there be not one copy nor half a dozen, but so many that every officer of the regiment can and must possess one, and every company at least five or six. Let officers and men be encouraged, even compelled to read and to be well versed in the story that it tells. Let us possess it as our own. It is not a matter of boasting, but one of honor, to know and be proud of the men and the deeds that have been before us.

Our volunteer forces have always, in one way, possessed an advantage in the pride of locality—usually of a State. They looked to friends and relatives at home for praise and encouragement, and they did not look in vain. The people at home looked to them to perpetuate and increase the name and fame of their community. Looking again to illustrations from Japanese experience, we see this and something more. There is not only a local pride of the Sendai men, of the Osaka regiments, but we hear of the Twelfth Division, of the Tenth Regiment, of the Fourth Company. In the veteran reserve which I have proposed these sentiments will also be combined, for it will be localized by regiments and also closely attached to the Regular Army by origin. The Regular Army man takes a quiet pride in the Regular Army. Let his pride be nurtured. Help it increase, not only in the army, but in his regiment, his company, and in himself. Away with a makeshift uniform whose characteristic is ununiformity, and give him a permanent, attractive one that will help him to feel that a soldier should look the part of a soldier and not that of a slouch and a rake. His warlike work will not be the less well done for his having been able to feel before it begun that he was truly a soldier.

Give him, when he has done this work to which his life is, for the time, dedicated, an emblem to show what he has done. The navy has, for many years, given its officers and men campaign medals which they are proud to receive. After the Spanish War it was proposed to do as well by the army. Why has it not been done? Is it thought the army does not desire these tokens? If so, someone has sadly misconstrued its spirit and its wish. They are, to the soldier, a source of pride

and satisfaction, and they will be to his posterity a priceless legacy. It is not in the public school, but in the home, where the sword or the rifle of the father and the grandfather first awaken the glowing fires of patriotism.

The possession by regiments of coats of arms is neither snobbish nor un-American. They are emblems its members should be able to wear with pride, as everywhere distinctive of the regiment and indicative of its history. To the soldier they have the sanction of generations of his fathers who went forth bearing arms. Help him to look back, now and then, in order that he may better look forward. Emblazon on the colors of his regiment the names of its battles, that all may see and note what manner of men once fought under them, and we may be sure that a like manner of men will fight under them once again, when there comes the call to battle.

IZEN—25.



FIELD AND SIEGE OPERATIONS IN THE FAR EAST.

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IN discussing so vast a subject as the present war in the East, all that can be attempted here is to give a cursory view of the events of the campaign so far as to refresh our memories of the accounts that have come in a fragmentary shape from time to time, and then to express an opinion as to the light that these accounts may throw upon the character of a modern battle, first, as it is, and then, as it should be conducted, whether in the open field or in siege operations.

It would be foreign to the subject to discuss the causes that led up to the war, which are as hard to defend on sentimental grounds as those between the descendants of the Pilgrim Fathers and the North American Indians.

It is only fair to premise that the information on which this article is based has been derived from sources accessible to all and not from any information received through official sources.*

The published accounts, when sifted and weighed, throw much light upon most of the doubtful problems of modern warfare, but any opinions based upon such sources must be subject to modification hereafter.

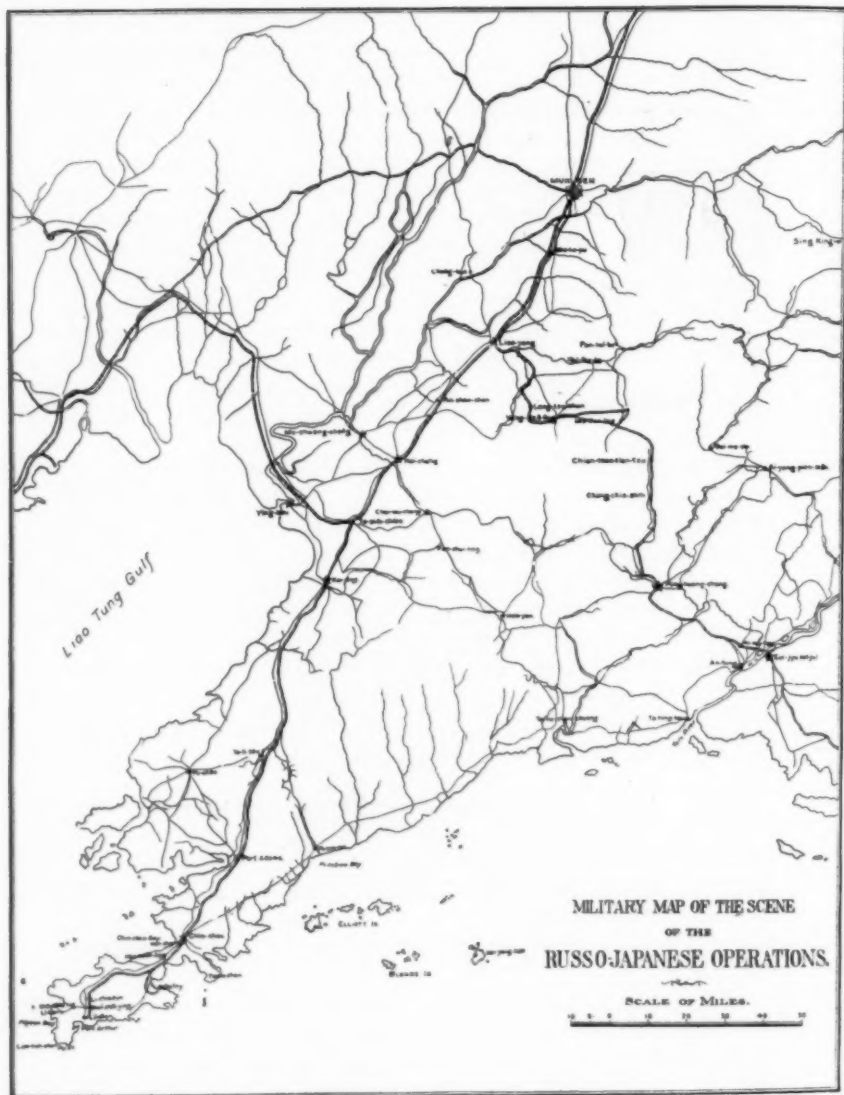
GENERAL OUTLINE OF OPERATIONS.

At the outbreak of the war the Russian Navy was at least twice as strong numerically as the Japanese. The numbers in the Far East were about equal, but the Russian fleet was divided between the harbors of Port Arthur, Vladivostock, and Chemulpo, while another battleship was on its way from Europe.

The Japanese had spent ten years in preparing for this war, and had assembled an army of several hundred thousand men, thoroughly drilled and equipped, and the war had been rehearsed in all its details.

It was generally believed in Europe and America that Rus-

*A list of authorities will be given hereafter.



sia, while promising to evacuate Manchuria as soon as her railroad was safe from interruption, was in reality massing an army there of about 200,000 men. It is now estimated that at the outbreak of the war she had only about 50,000 Cossacks and Siberian riflemen in the field to oppose the armies of the Japanese, but all these estimates must be taken with reserve. Whatever may be thought of Russia's motives there can be no possible doubt of the fact that she did not expect war and did not want it.

On the 7th of February, 1904, the Japanese captured a merchant vessel called the *Rossia*, and hailed the name as an omen of success. On the following day the Russian cruisers *Variag* and *Koriets* were destroyed at Chemulpo. On the night of February 8th to 9th the Russian battleships *Tsarevich* and *Retvizan* and the cruiser *Pallada* at Port Arthur were torpedoed. On the 9th, the Japanese landed at Chemulpo; on the 10th they occupied Seoul; on the 13th another torpedo attack was made on Port Arthur; on the 23d the Japanese attempted to block the mouth of the harbor. The attempt was not successful, but the Japanese collected troops and supplies at the Elliot and Miao Islands.

On the 13th of April, Admiral Makharoff, who had recently taken command of the Russian fleet, made a sortie from the harbor, but on the approach of a superior Japanese fleet withdrew, and the battleship *Petropavlovsk*, with the admiral on board, struck a floating Japanese mine and was sunk. The loss of the battleship was a serious disaster, but the loss of the admiral was even greater.

This, for the time being, gave Japan the command of the sea.

The Japanese had collected in the Elliot Islands an immense amount of food and other supplies, and troops in sufficient numbers for a first landing, and a large flotilla of small boats for transporting them. Meanwhile, the Twelfth Division of the Japanese Army which had landed at Chemulpo took possession of Seoul, the capital of Korea, and then marched north to Ping Yang, where it was joined by the Second and Tenth Divisions, which landed at Chemulpo as soon as the harbor was open, forming the first army of about 45,000 under Kuroki.

All Korea was soon in possession of the Japanese without any material resistance from the Russians who never sent more than 2000 Cossacks south of the Yalu River.

It is said that in February, March and early April, all the

coast of Manchuria is ice-bound and that the landing of an army is impossible any where from the mouth of the Yalu to the mouth of the Liao. About the middle of April the ice broke at the mouth of the Yalu and it was quickly swept of mines and occupied by gunboats, and Antung became Kuroki's base.

General Kuropatkin took command in March. Some reinforcements had arrived from eastern and central Siberia, but the Japanese had occupied the greater part of Korea.

Kuropatkin's efforts were directed first to putting Port Arthur in condition to withstand a long siege and then to distributing his forces so as to delay the advance of the Japanese into Manchuria until he could assemble and equip an army strong enough to meet them. As the Japanese controlled the sea they could land on either side of the Liao Tung Peninsula.

The Russian Army with headquarters at Liao Yang was disposed as follows: Stackelberg at Kaiping, Sussolitch on the Yalu, Stoessel at Port Arthur, Sarubayeff at Liao Yang, Hai Cheng, New Chwang and Tashichao.

On the 1st of May, Kuroki, with 45,000 or 50,000 men, met Sussolitch on the Yalu with 15,000 or 20,000, outflanked him and drove him back with great loss. Sussolitch retreated to Feng-Wang-Cheng where a supply depot had been established. Kuropatkin ordered him back to Mo Tien Pass on the ridge that forms the backbone of the Liao Tung Peninsula. Soon after the battle of the Yalu the Japanese cruiser *Yoshino* was accidentally rammed and sunk and the battleship *Hatuse* struck a Russian mine about ten miles out from Port Arthur and was destroyed.

On the 3d of May Kuroki occupied Feng-Wang-Cheng.

On the 5th, the second Japanese army under Oku, landed at Pitsewo. On the 7th, the third under Nodzu, at Takushan, and a little later, a landing was made at Port Adams. Then came a period of apparent delay. Immense supplies of food, ammunition and guns had to be landed at all of these places and new bases formed.

May 15th, the forces from Port Adams and Pitsewo united and cut off Port Arthur from the north. May 26, the battle of Kinchow or Nan Shan was fought between Oku, with the second Japanese army of about 45,000, and Stoessel with about 15,000, from the third Russian corps. The Russians were driven back toward Port Arthur.

Nogi was detached from Oku and put in command of the army of investment, while Oku took the rest of his troops for an army of observation. The Russian Army still occupied the railway between Moukden and Kinchow. Kuroki was at Feng-Wang-Cheng. Nodzu was coming from Takushan to Sinyen, where he arrived June 8th. Each had its own base on the sea. From the commencement of the land operations the Japanese had been careful to secure their positions by fortification and their lines of operations by good roads. The armies were in touch by telegraph with one another and with Tokyo whence they received daily instructions and advice from Marshal Oyama.

The value of Port Arthur is self-evident. The Russian's line of operations was long and weak and threatened in the flank by Kuroki and Nodzu, who were within supporting distance. Soon after occupying Feng-Wang-Cheng Kuroki had displaced a small force in the direction of Hing King which for a while caused quite a commotion at Moukden.

The Russian Army was reinforced regularly but slowly until Kuropatkin had 108,000 men in the field, which about the 1st of June were divided as follows: Keller at Feng-chu-ling, 20,000; Sussolitch at Liao Yang, 46,000; Sarubayeff at Hai Cheng, 16,000; Stackelberg at Tashichao, 20,000. The Japanese Army was reinforced much more rapidly up to 150,000, exclusive of those investing Port Arthur. The garrison of Port Arthur has been estimated at 35,000, the investing army at 60,000.

It is said that the Viceroy Alexieff forced Kuropatkin against his will to send Stackelberg and his corps to the relief of Port Arthur.

June 15. Stackelberg with about 30,000 men met Oku with 40,000 at the battle of Telitzu or Wa-Feng-Goa. The Russians were driven back to Kaipeng. Oku followed, and Nodzu moved westward to join him. At about this time the Vladivostock fleet made a raid on the Japanese transports, inflicted a great deal of damage, and returned in safety.

June 23. The Port Arthur fleet also came out. The entrance had to be cleared of mines, and the Japanese torpedo-boats caused them much delay. But the Japanese fleet appeared and the Russians returned with some loss.

Meanwhile, the Japanese were making roads. Kuroki oc-

cupied and fortified Cheng-chia-shih and Ai-Yang-Pien-Men. The Russians held Sai-Matze.

On the 26th and 27th of June, the Japanese took the passes Fenshiling and Motienling. The Russians were driven back and the roads opened to Kaiping, Hai Cheng and Liao Yang.

The advance on Port Arthur was steadily continued. Each successive position taken was fortified and big guns brought up.

July 1. The Japanese occupied Siamatze.

July 4. Kuroki, with 8000, defeated the Russians with 4000 at Yantze Pass.

July 9. Oku drove the Russians from Kaiping and they then took up a position at Tachi Chiao. Oku attacked them there July 24th and 25th. The Russians had about 30,000, the Japanese had about 50,000. The Russians were defeated and fell back to Hai Cheng and abandoned Yinkow and New Chwang.

At this time the total strength of Kuropatkin in the field was about 125,000 opposed to a Japanese force under Oyama of about 185,000.

July 17. The Russians, under Keller, with 20,000, attacked the Japanese with 15,000, at Motien Pass, but were driven back.

July 31. Kuroki, with 60,000, defeated the Russians, with 30,000 at Yu-Shu-Lin and Yantze Pass. The Russians retreated to Anping and Tang-Lio-Yeng.

August 1. Nodzu, with 30,000, defeated the Russians with 20,000, at Si-mu-chen. Oku occupied Hai Cheng.

August 3. The Japanese occupied New Chwang.

August 10. The Russian squadron at Port Arthur tried to escape, but fell in with Togo's fleet and after a severe battle was scattered. The *Tsarevich* escaped, the others returned to Port Arthur.

August 14. The Vladivostock squadron was intercepted on its way to join the Port Arthur squadron. The *Rurik* was sunk.

August 15. Another sortie was made from Port Arthur. Russians returned without encountering the Japanese.

August 25. Kuroki occupied Yian-tzu-shan, Tang-ho-yen and Anping.

August 26. Oku and Nodzu came up in line which then reached from An-shan-chen to Tai-tze River.

August 26. September 4. Battle of Liao Yang. The

Russians had about 200,000, the Japanese, 220,000. The Russians were driven back to Moukden. Then both armies rested until October 10th, when Kuropatkin issued his celebrated proclamation. The battle of the Shaho lasted for ten days or more.

The two great armies came to a deadlock which lasted throughout the campaign of 1904. The Russian losses were terrible, but Moukden and its resources, and by far the greater portion of Manchuria, remained in their possession throughout the winter.

STRATEGIC FEATURES.

The most interesting feature of the strategy of this campaign is the fact that Kuropatkin, holding the interior lines, was not able to fall upon any of the Japanese armies and destroy it in detail. A general like Napoleon might perhaps have done so if the movements of the enemy had been tardily conducted, but the conditions were very different from those of 1796 or 1814.

Kuroki was never out of telegraphic communication with the other armies until the battle of Liao Yang, and Frederick Palmer describes the terrible feeling of confusion and desolation that this isolation produced.

The superiority of modern firearms extends the front which an army can defend and the ridge of mountains that forms the backbone of the peninsula multiplied the number of defenders by four or five and it is hard to say whether we should regard all these operations as a strategical campaign or as a continuous battle over a front of more than a hundred miles.

At the first glance it might appear as if Kuropatkin could have thrown all his forces on Kuroki and then turned upon Oku, but every Chinaman was a spy for the Japanese and a surprise was out of the question.

Kuroki would probably have withdrawn and Oku forced his way up the railroad. If Kuropatkin had thrown all his forces on Oku, Kuroki would have been a dangerous enemy in his rear.

PERSONNEL OF THE OPPOSING FORCES.

One is apt to overlook the effect of small size in warfare. It takes more bullets to hit a Japanese than a Russian. A



From London Illustrated News

THE ENGELHARDT 87-MM. Q. F. FIELD GUN



From London Illustrated News

AN INTERVAL OF ARTILLERY FIRE; CLEANING THE GUNS UNDER COVER

ravine that will hide a Russian's legs may hide a Japanese body.

The Japanese are nimble and quick. The Russians are slow, but with good training perhaps the best material for soldiers, next to the Americans, although in a very different manner.

The Japanese horses are small. They bought some large ones but found that their legs would not go around the horse's body and the harder they tried to hold on the less secure they became in their seats.

The small size of the men and horses controlled the weight and caliber of the field-guns and they have often been exposed to fire to which they could make no reply.

FIREARMS.

The small arms of the Russians and Japanese do not differ materially from those in general use in Europe and America.

The Japanese field-gun is lighter than the Russian and its effect is about the same as that of the Russian gun at 1000 or 2000 yards greater distance. The gun is mounted in the axle instead of on it and this makes it look like the "men whose heads do grow beneath their shoulders" whom Othello describes as allies of the anthropophagi. This gives it greater stability and lightness, but less command. For checking the recoil and returning the piece to battery, they use the recoil brake and wheel shoes instead of the old trail spade or the modern recoil cylinders. When the piece recoils, the rope winds around the nave and compresses the cup shaped springs of the brake. The average length of the recoil is half a meter.

When the piece runs forward, it does not return to precisely its original position and has to be relaid after each shot. The breech mechanism requires two motions to open and close, and the powder and projectile are inserted separately.

The Russian field-gun is better than the Japanese in its ballistic qualities, but its recoil is taken up by a trail spade actuated by an india-rubber buffer. This deteriorates from old age, climate and oil.

The seacoast guns at Port Arthur were originally of the old Obuchoff type, and resemble the old Krupp guns. They are inaccurate and slow; the heaviest are 10 and 11 inch, and their penetration is about one-half that of modern guns of the same caliber. Then 10-inch guns with capped projectiles



From London Graphic

ARTIFICIAL COVER ERECTED BY THE JAPANESE FOR CONCEALING HOWITZER-BATTERY
EMPLACEMENTS.

would penetrate the heaviest Japanese armor at 3000 or 4000 yards at normal impact only. The new Obuchoff guns are better. They are similar to the Schneider-Canet. As at Sebastopol many guns have been taken from the ships in the harbor and mounted on land. Some of the guns for the sea-coast and for the land front are mounted on Durlacher disappearing carriages. As the piece recoils and descends, it actuates the piston of a hydraulic cylinder which forces the liquid through pipes to other cylinders and compresses Belleville springs which return the piece into battery after it is loaded. Most of the modern guns mounted at Port Arthur are of 6-inch or 4.7-inch caliber and therefore useless against battleships at Japanese distances.

At the siege of Port Arthur the Japanese made use of sea-coast mortars of 28 centimeter or 11-inch caliber. They are mounted on a carriage which recoiled on the chassis and far inferior to our 12-inch mortars. The shells which were loaded with Shimose powder weighed about 500 pounds, but the rate of fire was only about one round in eight minutes instead less than one minute.

The field pieces used in the war must not be confounded with such quick-firing guns as the French, or as those with which the Americans and all the Europeans are now arming. The new gun takes up the recoil by a hydraulic cylinder and is brought forward by a pneumatic, or still better by a helicoidal steel spring. The gun moves back 50 or 60 inches on a carriage which remains absolutely still. These new guns can fire twenty rounds a minute; the Russian guns five or six rounds; and the Japanese four or five.

The Russians' tactics have been based upon their experience in 1877-8, but the influence of Dragomiroff and other conservative officers have kept them from drawing such inferences from it as we have drawn. The Japanese appear to have rigorously copied the Germans. They appear to have based their tactics on the war of 1870 and '71 and I think without making due allowance for the weapons they carried. They have, however, shown great skill in the use of field-artillery, especially in indirect fire and when no natural shelter was to be found they have improvised it by building screens heavy enough to afford protection against small arm and shrapnel fire.

TACTICAL FEATURES.

It has been asserted by many who ought to know better, that this war has proved the folly of the conclusions that were drawn in Europe from the war in South Africa and shown that if soldiers are animated by desperate bravery, reckless of death and insensible of pain, they will go forward in spite of appalling slaughter, and by a liberal use of the bayonet transfix their feeble adversaries who have depended upon their firearms for defense. We know very well that such was not the experience of our Civil War and we know that the Europeans could not benefit from our experience until it was repeated upon the other side of the Atlantic, regardless of latitude. A few years ago they were disposed to treat lightly any allusion to our views of fighting, still less would they admit that a gun ten times as efficient would do much more execution than the old guns.

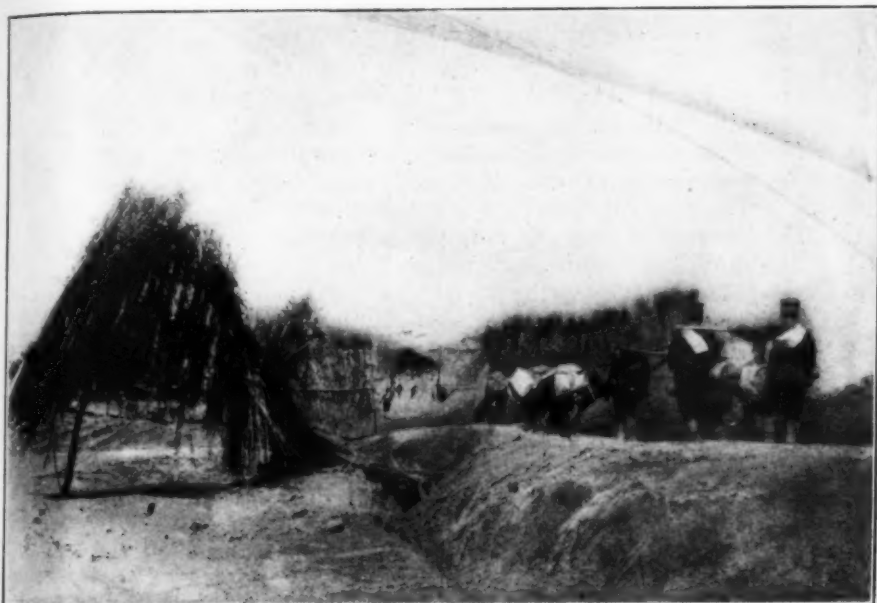
A careful comparison of the numbers of killed and wounded with those in former wars shows that the proportions are less in comparison with the numbers engaged in the Asiatic than in the American War—although some of the Asiatics have been said to take pride in killing themselves. A careful scrutiny of the battles of this war shows that they accomplished more after they learned that non-existence was incompatible with the efficiency of a soldier.

It will appear that in the battle of the Yalu the Russian line was brought under a heavy fire of artillery from front and flank before the Japanese infantry approached in front, and that this line, as soon as it came under heavy fire, withdrew to the cover of the river bank and followed up the ravines to unprotected points in the enemy's line.

At the battle of Nanshan, the frontal attack accomplished nothing until the position was turned and the Russian defenses brought under fire from front flank and rear.

At Liao Yang and elsewhere the Japanese made repeated frontal attacks, losing heavily and accomplishing little, until they turned the flank.

Both sides have made extensive use of intrenchments, but the trenches have been deep enough to enable the men to fire standing and not lying down as formerly. Trenches of the old form would soon be plowed up and leveled off by the rain of high explosive shells and the shrapnel would search out any



The London Illustrated News

THE JAPANESE ADVANCING BEHIND BAMBOO SCREENS



The London Illustrated News

THE INTERPRETER; THE MEDIUM BETWEEN CORRESPONDENTS AND THE GENERAL STAFF;
CAPT. OKADA PHOTOGRAPHED IN THE TRENCHES

cover they could afford. The Japanese displayed much ingenuity in the use of screens.

Extensive use has been made of wire entanglements, *trous de loup*, etc., as in our Civil War.

The modern rifles, if properly directed, will enable a line of infantry at three or four yards intervals to keep off an indefinite number of adversaries if it is protected by intrenchments and if the ground in front is all exposed to its fire. The bullet will penetrate several feet of wood, but it will not go through the side of a hill or dense forest. The method of attack, developed in the last great battles, is what was predicted by those who had studied the problem with greatest care, viz.: the artillery with its quick-firing guns and especially with howitzers if available keeps up a continued fire upon the position to be attacked, at first with high explosive shells and then with shrapnel. Then the infantry advances, preferably by night or in a fog, and takes up an advanced position, digging itself into the ground and perhaps waiting all day to make the next advance by night, and so working along until the enemy's strength or ammunition is exhausted.

The fact that a thin line can hold a stronger one in check makes it desirable and possible to make a bolder move than formerly to outflank an enemy, and in South Africa both sides kept extending until a small army covered a front of twenty miles, then as predicted, it became possible to reverse the tactics and break through the center as was demonstrated in the last campaign in Africa. The plan of this battle was similar to that of Austerlitz, but the yard stick was many times as long. But as a line is longer it must also be thicker, for a line can be broken by constant pounding, and if the wings must travel twenty miles to reinforce the center, the center must be stronger than if they only had to travel two miles.

In the present war the lines have seldom been too much extended, and where the attacks on the center have been successful it has been due to openings in the line and to local causes. This was notably the case at Liao Yang and at the great battle of Moukden.

Both on the march and in the great battles by land all the operations were conducted by telegraph and telephone from maps showing the positions of the troops, and so far as the leaders were concerned they were simply kriegsspiels with living men.

NAVAL AND SEACOAST WARFARE.

The Japanese Navy has taken the navies of England and America as its models. The admiral who fired the first shot learned the art of war at Annapolis and the Japanese Naval Staff has made a thorough study of the art.

In this respect the Russian Navy has been fearfully deficient. The Russian ships have been built on the most approved models, but the crews have not even been perfected in the elementary drills, much less have they become familiar with those exercises on the map and on the water that are making warfare a second nature to the Anglo-Saxon navies. Russia, like Macedon, has spent hundreds of years in fighting her way to the sea and has not yet learned how to fight upon it.

Some of her naval officers, however, are as well advanced in their profession as any in the world, and the lamented Admiral Makharoff was the recognized authority in Europe and America on naval battle tactics and specially on torpedo warfare.

The most striking and dramatic feature of the siege of Port Arthur, is the fact that before Russia imagined that there would be a real war, three of her big ships had been put out of action for the time being by torpedo-boats, and on the following day three more vessels were injured by the long range fire of the Japanese.

Until quite recently torpedo-boat warfare had been discredited by naval experts. The effect of one night's work was to suggest to some minds the necessity of abolishing battleships, and then the pendulum of public opinion swung to the other side, and now many officers of the army and navy believe that torpedoes are ineffectual. The work they have done would justify their retention but they can do much more. Their advocates have recently been too sanguine and not availed themselves of all available means to increase their speed and direct their flight. The explosion of the charge has been imperfect. The remedy is probably at hand, and I believe that automobile torpedoes will play an important part in the wars of the near future. They have played the leading if not the decisive part in the present war.

The long range gun has proved to be the master weapon for purely naval purposes. The ranges in the sea fights varied from over 8000 to 2500 yards, but the greatest work was done at long range. This has been anticipated by advanced think-

ers, but in the naval battle of Santiago the effective work was done by the rapid-fire guns of medium caliber, and this gave rise, both in Europe and America, to the general belief that these should be the main dependence of the navy and of sea-coast fortifications.

The late Admiral Makharoff was inclined to advocate this view, although he has been the most eminent in the introduction of the capped projectile for piercing armor and the great authority on torpedo warfare. This opinion about rapid-fire guns was shared by eminent artillerists of both services and on both sides of the water, and there was at one time great danger that we should have no more heavy guns or mortars. Fortunately, on our seacoast, we mounted the heavy guns first, because it took longer to mount them, and we have always recognized the necessity of guns of small and medium caliber against torpedo-boats and other small craft, and especially against such devices as an enterprising and powerful navy would use in removing our submarine mines.

It is interesting to note in this connection that the Russian fleet was finally destroyed by the Japanese 11-inch mortars, similar but far inferior to our 12-inch. The Austrians have a 9½-inch mortar which they transport on three carriages, and which is mounted and fired in thirty minutes. A similar mortar, but of a little greater power, would enable us to make hundreds of our little harbors untenable as long as we hold the shores with our land forces.

The Japanese and Russian Navies were so nearly equal that the loss of a few vessels might turn the balance. To this and other causes must be attributed the fact that so little has been done in the way of countermining.

Although it is not to be supposed that neither party has made use of electrically-controlled mines, yet most of the work has been done to friend and foe by the automatic self-regulating mines. These are dropped overboard from a hole in the stern of a vessel like the *Yenisei*. The mooring line is clamped automatically at the proper depth and the explosion made by contact. An officer of the Italian Navy has won quite a reputation by his improvements in this style of mines and a few years ago they were quite popular in Europe. The Russians have blown up so many of their own vessels that they will perhaps make less use of such mines hereafter.

Although we have been among the first to develop a good

system of electrically-controlled mines, and now hold that they are among the first requisites of a perfect defense, we consider them as an obstacle to detain vessels under fire of our guns and not as impassable if left to themselves. Automatic mines can be automatically exploded, and controlled mines can be removed by countermining in a fog by an enemy that is strong enough to command the water.

The necessity for more scout boats is made apparent by every step of the operations.

SIEGE OPERATIONS.

Port Arthur, like Sebastopol, was not a regular permanent fortress, but simply a harbor defended by an old Chinese wall and many earthworks well-stocked with old guns and reinforced by modern guns taken from the fleet.

For fifteen or twenty miles the country was fortified by earthworks or masonry works of the old form. Nothing like the girdles of detached forts that surround the cities of Europe. The high hills look strong but their slopes are rugged and cover dead spaces hard to reach from the forts that surmount them.

The forts in modern Europe are also defended by steel cupolas which may be concealed from distant fire and are imbedded in vast masses of concrete. There has been no opportunity in this war to test the utility of these devices, and it must be remembered that the heavy 11-inch mortars cannot be transported by land as easily as they were by sea.

In attacking a fortress armed with modern guns it has been evident since 1885 that the old method of sapping was utterly impracticable. One school of officers advocated the return to the method of a series of bombardments followed by rushes to places of shelter, and finally by assault.

The loss of 25,000 men by the Japanese in two or three days is one of the penalties they have paid for their fidelity to the German school of General von Sauer. Some of us, however, predicted several years ago that the most promising method of attack was in approaches resembling the old parallels and boyaux in plan, but very different in cross sections. The Japanese were finally driven to precisely this form which was intermediate between a sap and a mine.

The siege operations are thus described by Richard Barry, an eye-witness:

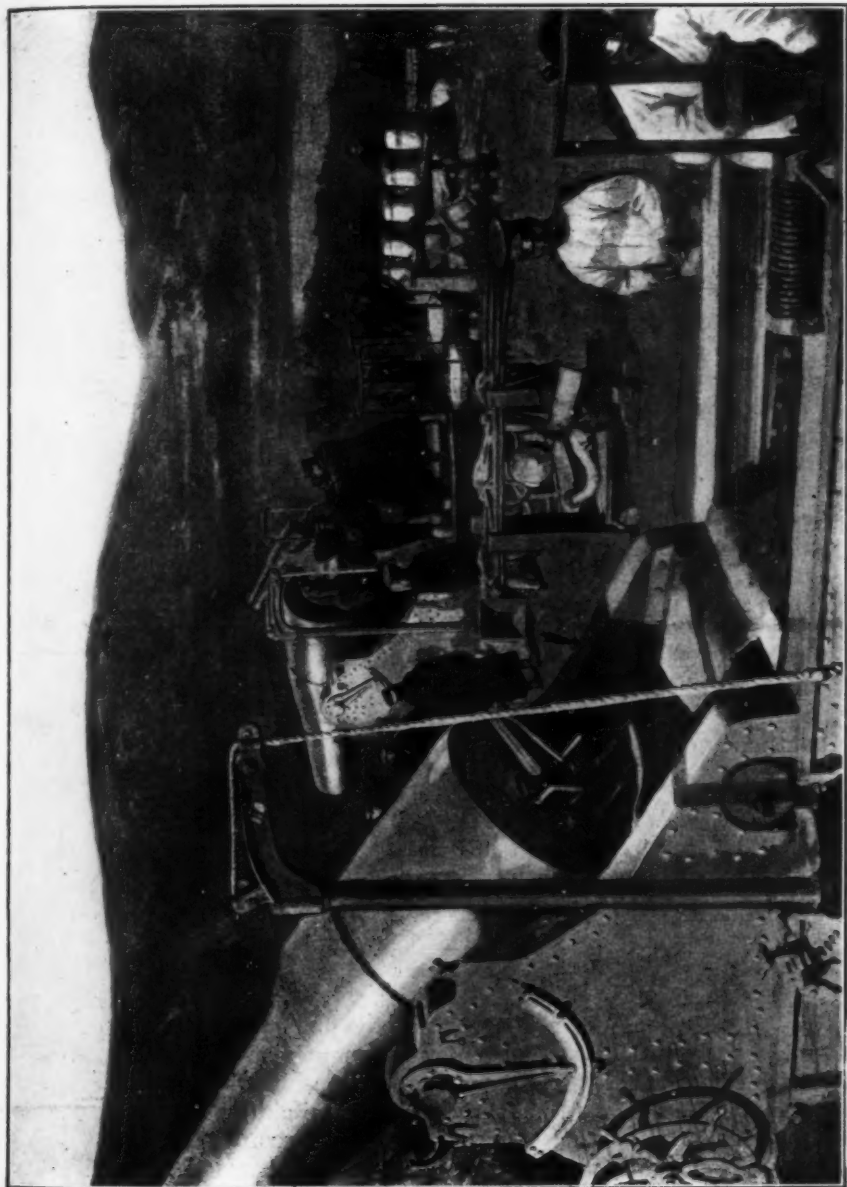
"As soon as the investment was complete, the Japanese

erected hidden batteries in various carefully-selected positions until they had no less than 300 guns trained against the city.

"All the furious assaults that failed so disastrously were preceded by bombardments the like of which had never been witnessed in the history of the world. These batteries consisted of regular siege guns of 5-inches caliber, a large number of naval guns of 4.7-inch and 6-inch caliber, and the regular field ordnance of the three divisions of the two independent brigades of the third imperial army. By far the most powerful pieces used in the bombardment were the powerful 11-inch mortars which were mounted in batteries from two to four in various positions behind the ranges of hills which effectually screened the Japanese from Russian observation.

"For the approaches the first operation was to cut a deep trench, not less than six feet in depth and a dozen or more in width, roughly parallel with the lines of the forts, and in a distance of about 1000 yards therefrom. From this trench three lines of zigzag trenches were dug in the direction of the principal forts of Erlung, Keekwan and Panlung. These trenches were about six feet deep (deep enough to hide the sappers from view) and eight feet wide (wide enough to allow the troops to march to the assault four abreast). The zigzag consisted of an alternate approach and parallel. The angle of the diagonal approaches were so laid with references to the enemy's forts, that it could neither be seen nor reached by shell fire. The digging was done chiefly at night, and the soil was carried back through the excavated trenches in gabions and on stretchers, and dumped out of sight of the enemy. As the parallels were advanced across the valley or level spaces they were roofed at intervals with planks covered with soil and grass, so that as the Russians looked out toward the ravine in which the army was supposed to be encamped there was nothing to indicate that the enemy was cutting a series of covered roadways right up to the base of the forts themselves.

"Of course, in many cases, the trenches were located, and desperate night sorties were made in the endeavor to break up the work. When the foot of the fortified slopes was reached a second great parallel extending around the whole face of the fortified eastern front was cut. This latter for the purpose of assembling troops for the final dash upon the forts. From this parallel the Japanese cut tunnels straight through the hills



From London Graphic

BREAKING DOWN THE LAST DEFENSES; SIEGE GUNS BEFORE PORT ARTHUR

This battery, the photograph of which was taken during the bombardment of Oct. 28, was situated 2400 yards from nearest Russian batteries. The heaviest gun is shown elevated ready to be fired while the second is being loaded.

until they formed themselves immediately below the massive parapets of such forts as they wished to reach."

From this point the mining operations began, similar in their general features to those as Sebastopol and subsequent sieges.

Thus was brought into prominence many other well-known devices.

Among others the steel shields for protection against musketry and shrapnel—the hyposcope or broken tube spy-glass to look over a parapet without exposure. This was used on 203 Metre Hill to direct the fire of the 11-inch mortars against the ships. Very extensive use was made also of land mines and stone fougasses.

Although most of the methods and devices that have been developed in this war have long been known to military men, they have not all been put into practice on so extensive a scale, nor have they all been advocated by any but the most advanced thinkers who have perhaps been thought somewhat visionary. Nor have these methods been employed by the Russians and Japanese because they were more advanced than the other great powers, but because they began with the conventional methods and improved upon them from the result of experience. The Japanese appear to have followed the Germans almost to the letter, and the German school is still, or has been until the last few years, weighted down by the experience or authority of the veterans of 1870 and '71.

The war of to-day is nearer that of the German book-stores of the past fifteen years than that of the German, Russian or Japanese Armies of a year ago.

The great lesson of this war is preparation. The Japanese had been rehearsing this war in all its details for the past ten years, as a war had never been rehearsed before. They had accumulated everything that could be required and stored it in spots from which it could be shipped to its destination on the hour and minute of the first hostilities.

The Russians did not expect and did not want a war, and all their energies for many years had been devoted to the construction of the Siberian railroad to an open harbor on the Pacific. This railroad has surpassed the expectations of their adversaries in its capacity for the transport of troop and ammunition. Correspondents who have just passed over it, describe it as well-constructed and maintained and capable of trans-

porting nearly a thousand men a day besides all the supplies of the great army. If they have lost Port Arthur, where will they find the open harbor? Not to the north, for it is colder. What then will be the final terminus of the Siberian railway?

Besides the general lesson of military preparation, this war has shown the necessity for carrying the instruction of armies to a higher point than it can be carried on the parade ground.

[TO BE CONTINUED.]



ACCOUNTABILITY FOR PUBLIC FUNDS AND PROPERTY.*

BY COLONEL H. O. S. HEISTAND, MILITARY SECRETARY,
UNITED STATES ARMY.



HE departments and bureaux of the Federal Government disburse vast sums of money and possess great quantities of movable property, such as fuel and forage, office furniture, stationery, means of transportation, tools, arms etc., and the business connected therewith is entrusted to officers and agents who are held to a strict accountability for property and expenditures of money.

Accountable officers are from time to time required to render formal statements of their accountability, accompanied by vouchers which give full details of the transactions. These formal statements are called "Accounts Current" when they pertain to money accounts, and "Returns" when they pertain to property. The object of the "Accounts Current" and "Returns" are two-fold; one to insure integrity in the conduct of the public business by giving the auditors opportunity to critically scrutinize all transactions, the other to keep the departments advised of the amount and whereabouts of funds and property on hand and available for expenditure or use.

The system at present in use, while not complicated, involves more time and clerical work than is necessary, and frequently in the military service under conditions of great difficulty and inconvenience.

It is believed that the same results might be secured, in the War Department at least, and eliminate a large part of the clerical work, while the greater portion of the remainder would be done in comfortable offices and thereby relieve officers in field and camp from one of their most exacting duties, and give them the time now spent in paper work to look after the practical work of assembling and distributing supplies.

The method now followed necessitates the retention of vouchers for periods varying from one month to six months, at the end of which they are abstracted, packed up and sent in a

*This paper is based upon a Memorandum on the subject, submitted to the War Department in 1904, and is published by authority of the Chief of Staff.

bunch with a summary of the business for the period covered to the bureau to which they pertain; this summary is the "Account Current" or "Return" above referred to. The care of all the papers at posts and in the field for such long periods is a serious consideration, to say nothing of preparing the abstracts. Papers pertaining to property and money accounts are so important to the accountable officer that he is inclined to leave rations and ammunition behind rather than risk separation from documents, the loss of which would affect him financially. The periodical arrival of returns and vouchers at the receiving office causes great congestion which results in long delays in examination—often a period of months elapsing before the accountable officer receives notification of the result, and any error is likely to be carried on through a series of returns. It is believed that both the "Account Current" and the "Property Return" might be dispensed with, and the periodical congestion of the auditing divisions relieved by allowing officers to mail their vouchers for money and property to the proper bureau as soon as completed, keeping a duplicate for their own protection. The vouchers, too, are capable of great simplification.

The operation of such a system may be illustrated by a single example. Congress makes an appropriation, say, of \$1,000,000 for the expense of the Quartermaster's Department of the army, and the Treasury Department sets aside that amount as available. The Secretary of War draws a warrant for \$100,000 and places it to the credit of the Quartermaster-General, who is notified and charged on the books of the Treasury Department with the amount. The Quartermaster-General transfers \$10,000 cash to Colonel Smith and receives receipts in duplicate from that officer; he keeps one receipt and immediately mails the other to the Treasury, where, upon its receipt, he is credited with \$10,000, leaving him accountable for \$90,000, and his own cash-book shows the same. Colonel Smith, under proper authority, purchases 1000 bunks at \$10 each and mails one copy of the purchase voucher and receipt with authority, etc., attached, for the purchase price (\$10,000) to the Quartermaster-General, and keeps a copy. When the paper is received at the office of the Quartermaster-General, where it is examined as now, and then sent to the Treasury, where Colonel Smith's cash account is credited with \$10,000 and he is charged on his property account with 1000 bunks, Colonel Smith transfers

100 bunks to Captain Jones and takes receipts in duplicate, retains one and immediately mails the other, which, when received by the Quartermaster-General and Treasury, operates to give him credit on the books for 100 bunks and leaves him accountable for 900. Lieutenant Doe asks Captain Jones for a bunk to use in his quarters; if he gets it he gives Captain Jones a receipt in duplicate, one copy of which is retained by Captain Jones, who mails the other and gets credit for one bunk and remains charged with ninety-nine, and Lieutenant Doe is charged with one and the memorandum receipt now so much used could cease to exist. This would leave the responsible agent always accountable to the Government for the property in his possession. If desired, one officer might be accountable for all the property of any supply department at a station, but experience teaches the writer that better results are secured by making the individual accountable for the property in his possession. The same system could apply to all departments and to money vouchers. Under the present system all of the above papers have to be made out by accountable officers and examined by the auditors. The accountable officer has the additional work of the abstracting and adding long columns of figures and the auditors the examination and verification of the same, while the work comes spasmodically instead of a steady flow as would be the case under the system outlined above. Strictness of accountability would not be sacrificed and much greater promptness secured by the proposed system.

At stated periods, if desired, officers could make out a statement of the funds and stores on hand and keep the Department fully advised in that regard, and if the officer's account and that of the Treasury did not agree, detailed statements of the items in error could be called for and furnished. Every officer would keep a properly arranged debit and credit blotter, which he would, for this own protection, be obliged to keep posted to date, showing at a glance the exact amount of money or quantity of every article on hand at any moment. A page of the same might be as follows:

BUNKS.

Date 1904.	No. of Voucher.	Nature of Transaction.	Dr.	Cr.	On hand to be accounted for.
Jan. 11	121	Purchased.....	1000		1000
Jan. 15	124	Received by Transfer.....	16	.....	1016
Jan. 16	190	Transfer to Capt. Miller.....		100	916
Feb. 4	221	Transfer to Lieut. Ives.....		21	895
Feb. 11	229	Received by Transfer.....	96	.....	991
Mar. 3	321	Condemned and Destroyed.....		226	765
Mar. 17	426	Transfer to successor.....		765	.....
.....		Total.....	1112	1112	None.

Similar pages could be given to each article. A good substitute for a book for the purpose would be the "Shannon" file or loose cards arranged alphabetically in a file box. A reference to the voucher cited in every transaction would give all the data pertaining thereto and the authority for the same. By the insertion of loose leaves or cards space could be added as required and names of added articles introduced into the account in alphabetical place. The same sort of book or file at the Quartermaster-General's office and the Treasury would be a running return or account, upon which vouchers would be posted as soon as received and the officer's accountability always up to date and could be completely closed in a short space of time. In case of the death of an officer his successor could begin his duties at once with a complete statement of accountability.

It is believed the proposed system could be made to discontinue the pernicious tendency to be "ahead" on property.

Upon receipt of a voucher at the bureau office of the Treasury, it could be examined and entered at once and the officer notified, if necessary, by postcard, all printed except the number of the voucher, to be inserted, and the War Department would have much earlier and more reliable information concerning supplies. Issues could be continued without interruptions or inconvenience when property is being inventoried or transferred.

An officer relieved from duty could close his account and make up invoice of his accountability in a very short period of time, and the funds and property accountability would be ready for instant inspection by an inspector-general without the necessity of preparing a long, special statement for verifi-

cation or making out a return to show accountability for property.

In time of peace the Subsistence Department, which keeps a daily account with individuals, might make up monthly bills as vouchers—the main idea of the proposed system being to do away with the account current and return attended by the periodical influx of papers and the necessity for holding vouchers for long periods and to have as much as possible of the clerical work done where the best facility exists.

Money vouchers as now prepared are bulky, cumbersome, and with American commercial methods are annoying to business firms. In preparing vouchers for the expenditure of money it is now necessary to prepare vouchers in duplicate, attach thereto the ordinary receipted bills of commerce, and have the vouchers signed by the payee. If the transaction be with a business firm the vouchers must be signed with the firm name and then by one of the individual members of the firm, who must state that he is such member, or the vouchers must be signed with the firm name and in addition by someone authorized to receipt for money due the firm, and evidence of that authority must accompany the voucher.

The nearer the Government approaches commercial methods in the conduct of its business, the more practical and economical will it become, and while none of the precautions against fraud need be abandoned or weakened, much of the vexation and delay now complained of will be avoided.

The Government and the disbursing officer would be fully protected if accounts were paid by check, taking the receipted, itemized bill in duplicate, attaching the authority for the expenditure and noting thereon the necessary data to identify the check given in payment. Such a paper forwarded with a statement to show the disposition of the property purchased would be as complete a voucher as the present cumbrous paper to which signature is in many cases so difficult to obtain, which causes such delay and inconvenience in transacting Government business and about which commercial houses frequently complain. The canceled check when received at the Treasury could be compared with the voucher to which it referred, for the complete protection of the Government, and the Treasury official who pays the check would satisfy himself that he was paying the proper person.

One objection to the method of property accountability

herein briefly outlined is the fact that some officers have as many as four thousand articles or more on their returns and would require that number of pages or cards in their files, but the objection is not a great one, as it always requires space to carry on a large business, and a little additional space, if indeed it would be necessary, could well be sacrificed for the advantages secured. Another objection would be the first cost of providing files, though it would not be great and would be offset by the saving in clerk hire. There may be objections and difficulties too great to overcome, but an experience of about twelve years' service in the Quartermaster and Subsistence Departments suggests none. Should the greatest objection arise from conservatism, it is to be borne in mind that tradition must occasionally be torn up by the roots to make way for progress; if it were not so we would yet be deciphering manuscripts by candle-light and defending our country with bows and arrows. If the discussion, which it is hoped will follow this paper, leads to the relief of the fighting force from a portion of the burdens of paper work, it will have served its purpose.

ADDITIONAL.

Since the above paper was prepared the original memorandum upon which it is based has been received back from the War Department with the following endorsements by the chiefs of the various staff corps:

SECOND INDORSEMENT.

WAR DEPARTMENT,
THE MILITARY SECRETARY'S OFFICE,

WASHINGTON, December 27, 1904.

Respectfully referred, by direction of the Chief of Staff, to the Inspector-General of the Army, for remark.

HENRY P. MCCAIN,
Assistant Adjutant-General.

THIRD INDORSEMENT.

WAR DEPARTMENT,
OFFICE OF THE INSPECTOR-GENERAL,

WASHINGTON, January 5, 1905.

Respectfully returned to the Military Secretary. As the within proposed methods of rendering accounts do not accord with the statutory law relating thereto (Sec. 3622, R. S.), which requires dis-

bursing officers to render monthly accounts with the necessary vouchers, legislative action would be necessary to effect the change.

It is recommended that Colonel Heistand be permitted to offer, for publication, his views as herein presented.

S. C. MILLS,
Acting Inspector-General.

FOURTH INDORSEMENT.
WAR DEPARTMENT,
THE MILITARY SECRETARY'S OFFICE,

WASHINGTON, January 6, 1905.

Respectfully referred, by direction of the Chief of Staff, to the Quartermaster-General, the Commissary-General, the Surgeon-General, the Chief of Engineers, the Chief of Ordnance and the Chief Signal Officer of the army, for comment.

HENRY P. MCCAIN,
Assistant Adjutant-General.

FIFTH INDORSEMENT.
WAR DEPARTMENT,
OFFICE OF THE QUARTERMASTER-GENERAL,

WASHINGTON, January 12, 1905.

Respectfully transmitted to the Commissary-General. After careful consideration it is not believed that this scheme is practicable or that it is desired to make any change in the present system of money and property accountability on the lines suggested herein.

C. F. HUMPHREY,
Quartermaster-General.

SIXTH INDORSEMENT.
WAR DEPARTMENT,
OFFICE COMMISSARY-GENERAL,

WASHINGTON, January 18, 1905.

Respectfully returned to The Military Secretary, War Department (through the Surgeon-General).

I am not wedded to any particular system of accountability, but do not favor changing present methods except for good reasons.

Leaving out of the question the legal aspect of the case, and judging the proposed plan solely on its merits, I am of the opinion, after the fullest consideration, that its adoption would not be in the interest of economy, simplicity or the effective dispatch of public business.

The system of accountability in operation at the present time is the result of years of experience and the best efforts of trained accountants and administrators, and it is being changed from time to time to meet necessities as they arise. It is simple and satisfactory, and seems to answer in every way the purposes for which intended. For these reasons no change is recommended; but Colonel Heistand deserves credit for his effort to improve the system.

The Subsistence Department welcomes suggestions and candid criticism at all times.

J. F. WESTON,
Commissary-General.

SEVENTH INDORSEMENT.

WAR DEPARTMENT,
OFFICE OF THE SURGEON-GENERAL,

January 23, 1905.

Respectfully returned to The Military Secretary, through the Chief of Engineers, United States Army, concurring in the views of the Quartermaster-General and the Commissary-General.

R. W. O'REILLY,
Surgeon-General, United States Army.

EIGHTH INDORSEMENT.

WAR DEPARTMENT,
OFFICE OF THE CHIEF OF ENGINEERS,

WASHINGTON, January 27, 1905.

1. Respectfully returned to The Military Secretary, through the Chief of Ordnance.
2. The proposed system of accountability is not believed to be practicable.

A. MACKENZIE,
Brig.-Gen., Chief of Engineers, United States Army.

NINTH INDORSEMENT.

OFFICE OF THE CHIEF OF ORDNANCE,

WASHINGTON, January 13, 1905.

1. Respectfully returned to The Military Secretary, through the Chief Signal Officer.

2. The proposed method of rendering money and property returns, if authorized by law, would amount practically to having all the clerical work involved, except making out and executing the individual vouchers, performed in the various bureaux of the War Department, and it is a conservative estimate that such a course would necessitate at least quadrupling the number of clerks engaged on that work at the present time. It is obvious that when a certain amount of clerical work is distributed among a great many persons—in this case the 1st sergeants and quartermaster's sergeants of the various troops and companies—it will require only a limited amount of their time, provided they are not otherwise occupied, to do the work which, if transferred to a central office would demand a largely increased clerical force, although the amount of clerical work would probably be less.

3. In regard to the money accounts of this office, it is difficult to see wherein any saving could be effected. The necessary vouchers would have to be made out in any case, and the abstracts required to accompany the papers are merely summaries of the amounts appearing under the different vouchers and appropriations, while the account current is simply a consolidation of the abstracts with the account for the preceding month. Even for his own information a disbursing officer would find it necessary to abstract his vouchers in order that he might know at any time how he stood with respect to the amount of money on hand under the different appropriations.

4. In regard to property accountability it is the purpose of this Department to simplify this branch of its accounts so that the

property return itself will be a record of all outgoing and incoming transactions, for which the entries can be made by the officers concerned as they occur. When the number of lines on such a property return is in excess of the number of lines available it will be necessary to resort to abstracts, but for this purpose there are only two, viz.: one for outgoing property and one for incoming property, and in using such abstracts in connection with his retained accounts an officer has merely to subtract the quantity of any item as shown by the outgoing abstract from the quantity as shown by the incoming abstract. The difference will be the quantity on hand. For an officer in the field this information is always essential, and the keeping of such accounts is merely a duplicate of what he is required to send to the Ordnance Office.

WILLIAM CROZIER,
Brig.-Gen., Chief of Ordnance.

TENTH INDORSEMENT.

WAR DEPARTMENT,
OFFICE OF THE CHIEF SIGNAL OFFICER.

WASHINGTON, February 8, 1905.

Respectfully returned to the Military Secretary. After careful consideration it is not believed that the within scheme is sufficiently practical to commend its substitution for the present system of money and property accountability.

A. W. GREELY,
Brig.-Gen., Chief Signal Officer.

ELEVENTH ENDORSEMENT.

To the Chief of Staff, M. S. O., February 10, 1905.

TWELFTH INDORSEMENT.

WAR DEPARTMENT,
THE MILITARY SECRETARY'S OFFICE,

WASHINGTON, February 15, 1905.

Respectfully returned, through Headquarters Atlantic Division, to Colonel Henry O. S. Heistand, Assistant Adjutant-General.

In connection with office letter of December 27th last, on this subject, authority is granted by the Chief of Staff to Colonel Heistand to publish his essay if he desires to do so, and at the same time to publish the comments of the chiefs of bureaux of the War Department,

By direction of the Chief of Staff:

HENRY P. MCCAIN,
Asst. Adjutant-General.

The provision of law cited by the Inspector-General was taken into consideration and discussed with officers before the memorandum was submitted to the Department, and legislative action contemplated in case it was deemed advisable to adopt the system proposed.

The Quartermaster-General, the Chief of Engineers and the Chief Signal Officer dismiss the subject with an expression of the belief that the system proposed is not practicable. The views of such distinguished officers are worthy of great consideration, but without the reasons upon which those views are based they do not weaken the reasons set forth in support of the change.

The views of the Commissary-General and their adoption by the Surgeon-General set forth reasons for objecting to the proposed system, as follows:

- 1st.—It would not be in the interest of economy.
- 2d.—It would not be in the interest of simplicity.
- 3d.—It would not be in the interest of effective dispatch of public business.

If not in the interest of economy, it is claimed that the proposed method would be at least as economical as the present method, since it contemplates that much of the work now performed by clerks at army posts and remote stations in the field would be transferred to the central office, and as it is proposed to reduce the number of papers and simplify others the fear of anticipated increase in clerical force, which embodies the only blow to economy, does not appear well founded. Furthermore, economy is not so much to be measured in dollars and cents as it is in the efficiency of the fighting force, which should not be impaired by excessive and unnecessary clerical work.

As to simplicity, it seems clear that the proposed system is a step forward, since as stated above it eliminates some papers now required and replaces others by forms less complicated. It also reduces the probability of mistakes due to the common errors of addition and subtraction by putting the work in the hands of experts skilled in account keeping by long training and practice, instead of entrusting such work to the available enlisted men who may happen to be temporarily at hand at posts or in the field.

The Commissary-General says:

"The system of accountability in operation at the present time is the result of years of experience and the best efforts of trained accountants and administrators, and it is being changed from time to time to meet necessities as they arise. It is simple and satisfactory, and seems to answer in every way the purpose for which intended. For these reasons no change is recommended."

The system in operation at present seems more like the accumulation of individual exactions of those who do not realize

the burdens upon the fighting force than the "result of experience." Surely it is not the result of the experience of those officers who march all day, make their issues after dark, and work far into the night with a smoky lantern on the tail-board of a wagon to prepare their returns. That the system now in operation is even simple is not admitted; that it is satisfactory to any but the administrative and clerical force of the departments in Washington is not believed; that it is not satisfactory to officers in garrison and the field is evidenced by the constant complaints heard against it in every garrison, and especially by those who are called upon to do field duty.

If a system requiring days, and even weeks, to close a return and effect a transfer of accountability instead of being in shape to effect the same in a few hours, or which requires waiting for months to ascertain the status of a voucher in the hands of the auditor instead of receiving such notification by return mail, is in the interest of "effective dispatch of public business," then the phrase holds a meaning which the writer fails to comprehend.

The object of the proposed system could not be better stated than it is by the Chief of Ordinance when he says:

"The proposed method of rendering money and property returns, if authorized by law, would amount practically to having all the clerical work involved, except making out and executing the individual vouchers, performed in the various bureaus of the War Department;"

but it is impossible to conceive upon what he bases the opinion that,

"It is a conservative estimate that such a course would necessitate at least quadrupling the number of clerks engaged on that work at the present time."

It is not clear how the number of clerks would be increased. The assertion of the Chief of Ordinance arises probably from the fact that he fails to appreciate that sergeants and privates of the line are now doing clerical work which could be performed in Washington. As a matter of fact, a fewer number of experienced clerks in the War Department would replace the clerk sergeants, privates, and, often, the clerk officers, in the work they are now performing at posts and in the field where they might better be charged with the care and economical use of property and funds and not engaged in writing about them.

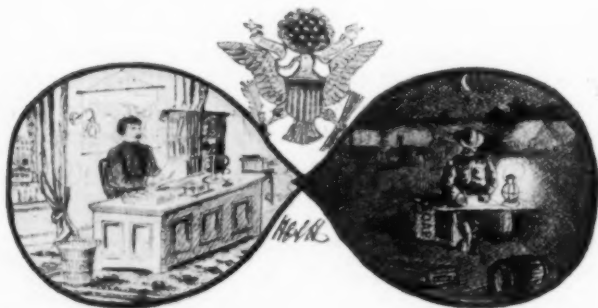
The questions arise whether a voucher immediately after its receipt at the department requires four times as long, or four clerks instead of one, to examine, note and acknowledge it as it does to perform the same operation with the same voucher one month or six months after it has been received; and whether if, under the proposed method, "the amount of clerical work would probably be less," it would require a greater force to do it in one place where the best facilities exist than to do a greater amount of work in another place where such facilities are wanting. It is admitted that if a given amount of work can be distributed it will only require a portion of the time of first sergeants, quartermaster-sergeants of companies, etc., to do it, "provided they are not otherwise occupied." That is just the point—they are, or should be, otherwise employed, but the fact is that when papers affecting the pockets of those men or of the officers they serve are required by the War Department those papers will be prepared regardless of the demands upon time by other duties and regardless of their relative necessity to efficiency, and those very men are often engaged in making vouchers to cover damages to and losses of property and abnormal issues which would not have occurred if time permitted the property to be properly cared for and economically used. The shocking losses sustained by the Government through the loss of or damage to public property, it is believed, could be materially reduced if the time of the accountable officers and their assistants could be spent in caring for the property instead of being caged in their offices preparing returns which by the time they are completed are so out of date as to give the department or even the officer who made them but little information of immediate value.

It seems proper in this connection, even if somewhat in the form of a digression from the main subject, to point out that the number of clerks in the War Department could be materially reduced and much time in the transaction of business saved by dispensing with the record feature of all the bureaux and substituting therefor a central office of record where all papers would be indexed and recorded and to which all officers on duty at the War Department would have the same access. Under the present system papers are frequently indexed and fully recorded in half a dozen or more bureaux, entailing a great and unnecessary amount of work and causing annoying and aggravating delays in action

In regard to remarks under paragraphs 3 and 4 of the views of the Chief of Ordnance, that he "cannot see how the change in the method of money accountability will effect any saving in his office," it is proper, even with a repetition, to state again that the object of the proposed system of accountability is not to effect a saving of work in the central office, but to save it for officers in garrison and field; surely it would be accomplished by relieving them of the care of vouchers for long periods and making out papers, such as abstracts in duplicate, which are useless in the case of money accounts when the cash-book shows after every entry the exact state of the accounts under the various appropriations.

In regard to the property returns, why require any return, with or without abstracts, when the Department can and would be fully advised upon receipt of the original vouchers and a pocket memorandum of the property transactions would answer every purpose of subordinates in the field. The necessity for carrying about vouchers, returns, and the numerous other blank forms now necessary would be avoided, as well as the attention and care they require and the worry they entail on those who need all the rest which the time snatched from studying, reciting, drilling, marching and fighting will permit.

The writer's plea is for the line and for the fighting force, which receives its supplies from the staff, and the return therefor should be the greatest measure of efficiency and fighting form. The field force does the fighting; the office force should do the writing.





AMMUNITION TO THE FIRING LINE.

A MEET IN THE PHILIPPINES: A RATIONAL PLAN OF ATHLETIC TRAINING.

BY BRIGADIER-GENERAL W. H. CARTER, U. S. ARMY.



HE army was well satisfied with itself as a trained and highly capable fighting machine at the outbreak of the war with Spain. Assembled from widely scattered stations, regiments were brought together for the first time in years. Brigades, divisions and corps were hastily organized, and then came the sudden call for troops from Santiago. Marched aboard an indifferent lot of improvised transports, landed through the surf upon an open coast in the presence of a hostile force greater in numbers and fully as well armed, the small Regular Army, aided by a few selected regiments of volunteers, proceeded to break the backbone of armed resistance in a brief campaign of less than one month's duration.

What was it that enabled the army to do this? Of esprit de corps there was abundance and a better lot of officers of all grades it would be difficult to assemblé. The consensus of

opinion of the most observant officers and men of the army, however, credits success to the system which had been gradually evolved during the few years prior to the war with Spain and which had for its object the development of an athletic body of highly trained rifle shots. This system aimed to secure its results in war by putting every man on the firing line in physical condition to run from cover to cover without becoming so winded as to be unable to shoot straight. That the system fully justified itself there is no question and under similar conditions the same results could be obtained again.

The difficulty in the army now is that conditions have become altogether changed and results which came naturally and easily before 1898 are now hard to obtain under any circumstances likely to surround the service in the near future. The regiments had not recovered from the strain produced by the loss of experienced company officers and the sudden increase of companies to more than double their former strength, when various schemes were inaugurated for filling them for the alternating conditions of home and foreign service. So long as a large portion of the army is stationed in the Philippines and the three-year period of enlistment prevails, the companies will always be in a state of reorganization and assimilation of new material.

The success attained with the old organizations was not always due to the multitude of department orders regulating petty details but in spite of them. The application of such orders under present conditions will produce no such results and might prove altogether disastrous so far as fitting all the changing elements for campaign and battle.

Any system to be applied now must be based upon a recognition of the fact that whenever a regiment is ordered to Philippine or Alaska service it must undergo a species of disintegration and reorganization and that upon a return from such service to home stations it will arrive a mere skeleton organization to be again filled with recruits. All this means incessant work for officers and non-commissioned officers.

An examination of the orders of any geographical department in the United States prior to 1898, on the subject of military instruction, will convince any officer of long service with a company that the attempt to regulate each hour's work must result in loss of interest and failure under present conditions. The objects should be set forth, and the year apportioned ac-

cordova to seasonable weather and results demanded. This will serve to develop the individuality of regimental officers. The development of character and adaptability for meeting emergencies is of far more consequence in the future than any results possible under a system which compels a report as to how many minutes are devoted each day to the manual of arms, how many to close order, to skirmish drill and to other movements. Especially does this apply to athletic training with the constantly changing personnel of the present day.

During the past year an opportunity to test the value of the views expressed has been availed of and the most satisfactory results have been observed. The garrison of the Department of the Visayas, Philippines Division, consists of native scouts and three regiments of infantry. There are two regimental and three battalion posts. One of the regimental garrisons furnishes two companies as guard at a military prison several miles from the main post but sufficiently near to use the same target range and keep in touch with the regiment. The troops were about completing their shelter quarters and great rivalry and pride had been developed during the progress of the work. This spirit had much to do with the success attained in the subsequent military instruction.

In decentralizing and placing the responsibility for results upon organization commanders it was fully appreciated that sometimes a lazy or indifferent officer may take a temporary advantage of unwonted freedom. This consequence is insignificant when compared with the development of character in the general body of officers. A willingness to accept responsibility and freedom from machine-like adherence to minute allotments of time for drills and other exercises is certain to have its effects in strengthening organizations where they are weak and holding them steady where already strong.

To put the scheme in operation detailed reports of drills to department headquarters were abolished and the year so divided that garrison schools, target practice and other general subjects of instruction should be made the main feature of certain seasons. War Department orders regulate the character and amount of instruction to be undertaken in each year of garrison schools and the amount of target practice. No change was authorized in such cases but on the contrary every consideration was shown because of the interference inseparable from the progress of barrack construction.

None but a physically fit man is able to endure field-service in the tropics. To bring about a condition of fitness of all the men was the object of the orders issued on the subject of athletics and the fine results obtained under the system used are worthy of consideration by the army at large. A description of this system is the primary object of this paper.

At the outset it was decided to avoid the use of the expression "Field Day" and apply that only to field and battle exercises of the various commands when not of sufficient extent to be called maneuvers. Athletic meets were arranged for battalions, regiments and the department. A period of four months was designated during which company training was carried on, teams and experts being gradually selected. The system may be more clearly understood from the order itself than by a description of it.

GENERAL ORDERS, }

No. 27. }

HEADQUARTERS DEPARTMENT

OF THE VISAYAS.

Iloilo, Panay, P. I., July 15, 1904.

The annual athletic meet for this department will be held at Camp Jossman, Guimaras, November 16th, 17th and 18th, 1904. If by reason of bad weather or other proper cause, it should be impracticable to complete any events or contests, previously announced, the officer in charge shall direct such extension of time as may be necessary.

Physical training, including participation in authorized athletic contests, shall be regarded as other drills, and any injury received while engaged in such exercises shall be reported as incurred in line of duty. With the exception of a small number of veterans, whose physique may have become impaired by long service, all men shall participate in the calisthenic, gymnastic and athletic exercises. Among those who are no longer active will frequently be found men capable of advising and assisting in the instruction of younger men.

Instruction shall be by company. Preference will be shown for those exercises and sports in which all the men may participate. The value to the service from athletic contests comes mainly in the general good effects of the preparation. Each company commander shall select men to constitute teams and representatives for each event prescribed for the department meet. In this way battalion, regimental and department contests will measure the character and amount of instruction quite as accurately as the figure of merit for target practice.

Prior to the date fixed for the department meet, each battalion commander shall select, in such manner as may appear equitable, one company to represent the battalion at the regimental meet. Each regimental commander shall arrange for a meet of the companies selected to represent the battalions of his



FINISH OF QUARTER MILE RACE—BRIGADE FINAL.

regiment, and shall select from them, prior to November 1st, each year, one company to represent the regiment at the department meet.

No transfers of men from one company to another shall be made during the athletic season for the purpose of strengthening any company or increasing the number of experts therein. The officer in charge at all meets shall assure himself by means of certificates or otherwise before any contests begin that this requirement has been complied with.

Prior to the date fixed for the department meet, each regimental commander shall report to the Department Commander, the company selected to represent the regiment, the number of men of the selected company who are to take part in the contests and the names of officers to accompany them in order that transportation to and accommodations at the place of the meet may be provided.

The names of the officers to conduct the department meet will be announced in orders a sufficient time in advance to enable them to familiarize themselves with the rules governing athletic contests and make the necessary arrangements for conducting the meet.

The following events are announced and prescribed for the company contests during the annual department meet:

ATHLETIC EVENTS.

100 yards, dash.
200 yards, race.
220 yards, hurdle, 10 hurdles, 2½ feet.
¼ mile run.
Relay race, four men, ¼ mile.
Running high jump.
Running broad jump.
Putting 16 lb. shot.
Tug-of-war, 8 men and captain.

MILITARY EVENTS.

Equipment race; service uniform, rifle and belt.
Retiring sharpshooters.
Tent pitching; conical wall tent; 5 men, service uniform, rifle, haversack, canteen and blanket roll.
Wall scaling, 9½ ft. 8 men.
Wall scaling, 16 ft. 8 men.
Obstacle race.
Pack train contest; delivering ammunition to the firing line.

GAMES.

Base ball games.
Association football games.

In order to provide for participation of experts who do not belong to the companies selected to compete, regimental commanders shall designate teams and individuals selected from all the companies to represent each regiment in similar events to those prescribed for the company contests. The regimental contests will take place immediately after the company contests.

Rules governing the department meet will be distributed as

soon as practicable in order that all companies may have a knowledge of the requirements during the progress of training.

Commanding officers shall see that sufficient time is allotted to the duties herein prescribed as may be necessary to put all men, except those excused by the Post Surgeon, in good physical condition. The object of this order is to remove physical training from the field of option and place it on the same plane as other drills.

BY COMMAND OF BRIGADIER-GENERAL CARTER:

D. A. FREDERICK,
Major, Asst. Adjutant-General,
Adjutant General.

The participation of officers in the company contests was forbidden: they were authorized but not encouraged to enter the expert events.

Rules to govern the department meet were formulated and published in a circular in the usual way. This enabled company commanders to develop each man along some particular line while at the same time bending his efforts toward putting all men in sufficiently good condition to admit of competitive trials without danger of over-exertion or breakdown.

After three-months' training each battalion engaged in a meet and a company was selected from each to participate in the regimental meet. A splendid spirit was shown in all the preliminary work and contests, and in nearly all the battalions it was an open race for first place until the last points were scored. So evenly were many companies matched that the slightest miscalculation or accident meant defeat.

After the battalion teams were selected the regimental meets followed as soon as possible. When these were concluded interest had grown to such an extent that requests were made, in many instances by the men of the garrisons involved, that the competing companies, or such of the members as were competitors, might be excused from the usual guard, fatigue and other post work in order to fit themselves to win "for the old regiment." The regulation of all details pertaining to training of companies was left to company commanders, the battalion and regimental competitions being conducted under the direction of the respective commanders.

Then came the final tests at the department athletic meet. The number of events was less than that usually provided for in athletic contests and during the progress of the meet several changes were suggested as having become de-



WIRE ENTANGLEMENT.



BATTALION HURDLE RACE.

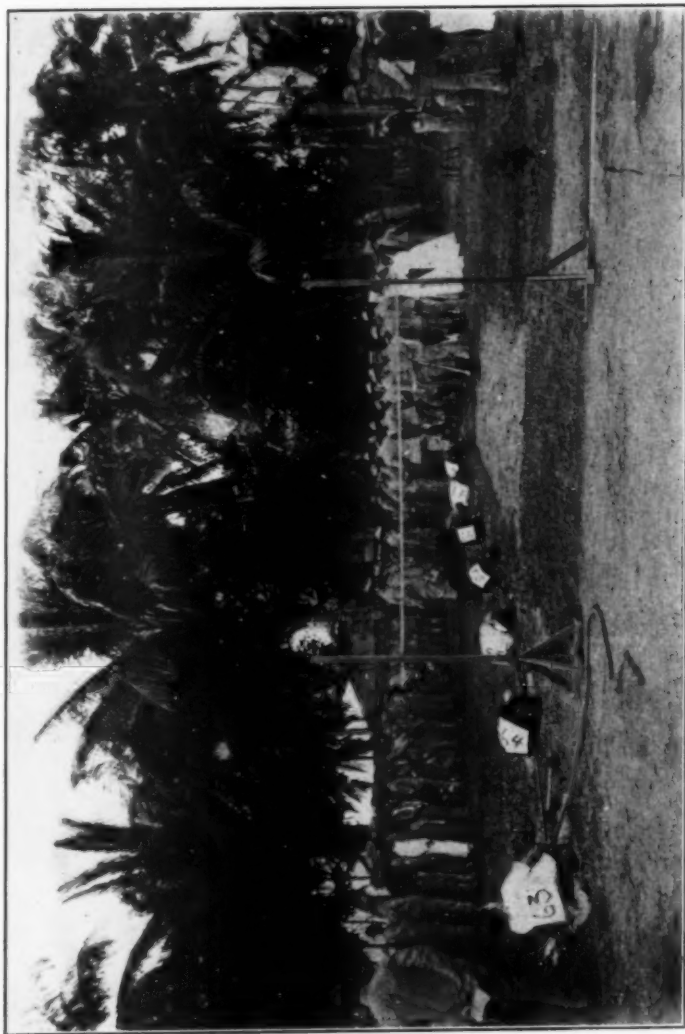
sirable during the progress of training. There was some disadvantage in having the same individual in several events. This arises in two ways, for an expert athlete may win several individual events and gain a large number of points for his organization, but on the other hand a team may be handicapped by a good man who has just used up his wind and strength in an individual competition.

The usual 220-yards' race was changed to 200 with a view to aiding men in estimating this very useful distance for off-hand rifle practice. The intended benefit was nullified by the use of an elliptical track at the final meet, although at some posts straightaway courses were used.

The tug of war with large cleats and a three-minute pull turned out to be the most trying of all events. The strain on the men, sitting or lying close to the ground with all circulation of air cut off by interested spectators pressing close to the ropes, was very great. There is a general disposition to shorten the time of the tug of war or substitute another military event for it.

The companies selected to represent the three regiments of infantry were "K" of the Twelfth, "G" of the Fourteenth, and "H" of the Eighteenth. The events were run off promptly and the winner announced without delay. Care had been exercised to have judges appointed from officers of other than the competing regiments whose decisions should be free from all possible suspicion of interest. All officers who could be spared from their regiments and desired to attend the meet were permitted to do so, and it goes without saying that they profited immensely not only by observation of the athletic and other events but through association with officers of other regiments during a period of intense rivalry.

The wall-scaling, tent-pitching and pack-train contests were of such a high character that the good effects will continue in the competing regiments for years to come. The pack-train delivery of ammunition to the firing line was a most creditable performance, and its value was so apparent that it will be continued as one of the main features of all athletic meets in future. With penalties added the first and second teams accomplished the feat in 6' 40 $\frac{3}{4}$ " and 7' 9 $\frac{3}{4}$ " respectively under the following conditions:



TUG OF WAR—WINNING COMPANY TEAM IN FOREGROUND.

PACK-TRAIN CONTEST.

Delivering ammunition to the firing line.

The train shall consist of two mules with aparejos and complete equipment. Each team shall consist of three men, one to be furnished with riding animal. Each team will be supplied with four boxes of ammunition. At the proper signal the aparejos and pack put on each mule; pack to consist of two boxes. One man to hold animals and one packer to work on each side. As soon as both animals are packed, with mounted man in front leading one mule, the second may be tied to the first or may be led by one of the dismounted men, proceed along a prescribed course of 880 yards as rapidly as possible to a designated point and take off the load. Each team to be accompanied by the judges. The contest to be awarded to the company team doing the best work in putting on aparejos, securing the load and unloading in the shortest time.

The enthusiasm continued throughout the final meet, and while some disappointment prevailed it served only to arouse a determination to win next time. When the final scores were tallied there was some consolation for while the company of the Eighteenth Infantry, commanded by Captain Butts, who wrote the "Manual for Athletics," won in the company contests, the Twelfth Infantry secured the winning total in the contest of regimental experts and the Fourteenth Infantry led in the games.

As soon as the competitors rejoined their regiments the department commander made an inspection of the entire command and found all the men in ranks had an appearance of rugged health and physical fitness hardly to be expected in a tropical climate.

In announcing the results of the athletic season and department meet the following language was used:

The athletic training involved in the preparation for the meet has amply justified the scheme laid down in the department order.

The result of the season's work has been to make known to company officers the physical aptitude of every man, to develop a number of heretofore unknown experts and to improve many who have already shown marked ability in various exercises and sports.

The art of packing has been revived and a knowledge of it extended to a degree which assures to each of the competing regiments the presence of not less than fifty men capable of packing ammunition and necessary supplies from depots or trains to their organizations.

A knowledge of the best methods of surmounting high walls and overcoming obstacles of all kinds has been made familiar to the entire command.

The season's experience has shown the desirability of some minor changes of events and rules, but generally speaking, the value of company athletic training as opposed to voluntary garrison athletics has been made clearly apparent to all officers and men.

The company contests in each battalion and the regimental contests of companies selected to represent each battalion have served to arouse a spirit of wholesome rivalry in all the organizations.

In the department meet, which was conducted purely as a military function without prizes of any kind, the generous and sportsmanlike spirit observed at all times was most commendable.

In the final arbitrament of war the physical aptitude of the infantry and their ability to shoot with accuracy will always be the determining factors in success or failure. Athletic training and rifle practice, therefore, constitute the most essential elements of all preparations for service and they are absolutely necessary to successful campaigning.



FRENCH VIEWS ON THE EMPLOYMENT OF CAVALRY IN COMBAT.

FROM THE QUARTERLY GERMAN GREAT GENERAL STAFF.

(FOURTH ISSUE, 1904.)

TRANSLATED FOR THE SECOND DIVISION, GENERAL STAFF, U. S. A.,

BY CAPTAIN C. W. FARBER, 8TH CAVALRY.



It is commonly acknowledged that the great improvement in firearms will in future wars cause a material change in the manner of combat."

One is forcibly reminded of this statement which, in the year 1861, headed General von Moltke's "Remarks on the influence of the improved firearms on tactics," when one observes to-day's prominent efforts, in practice as well as in literature of all large armies, to accommodate the tactics to the new weapons. Perhaps here and there one overshoots the mark and takes the form for the essence of the matter. In seeking for new forms, the views, according to drill-ground tactics, still crop out at times, failing to consider sufficiently the great diversity of conditions, which in reality demand constantly changing formations as well as the psychological powers, which in the present day's combat come to the front more than formerly.

At any rate, it is conceded that an antiquated method of attack by troops, when opposed to modern weapons, will run them into serious danger, at least, similar in extent, as at the time of the introduction of breech-loaders; yes, it may even result in a catastrophe. One is therefore justified to look everywhere for new forms of combat for the three arms, but one must not seek for success, nor even for preponderate safety in the form alone.

France, too, is zealously advancing in this direction. The formerly abundantly warranted reproach that the combat is tied down by schimatized forms, and that for the free exercise of the powers not sufficient scope is allowed, does surely no longer apply to that extent. It is known that in regard to the employment of artillery France has entered on a singular and unique path throughout. The new artillery tactics are re-

gardlessly directed on the main issue; from the very beginning and during the whole fight, the artillery supports its own infantry before everything else. How far they have hit upon the right thing in this form of combat has yet to be determined.

The last outline for infantry-drill regulations has departed considerably from the former scheme, and has already closely approached the German fighting regulations. In simplifying the formations they even went somewhat further, here and there. It is to be assumed that the final drill regulations now in preparation will be continued on this line. Recently a lively agitation has also entered the cavalry. This branch is struggling with all its might against its detractors who deny its action on the battle-field in future wars, and who wish to deprive it of any influence which the "charge" might exercise on the course of the combat.

Men of the reputation and influence of General de Negrier wish to assign to cavalry in battle, chiefly, only the rôle of carbine marksmen.

It is interesting to follow how the cavalry spirit defends itself against this, what expedients and formations are proposed to vindicate, even to this day, in the face of rapid-fire guns and small caliber repeating arms, the importance of cavalry on the battle-field. The clearing up duties (reconnaissances, etc.) are here to be left out of consideration as long as they are not solely carried out by combat.

The champions of the French cavalry steadily point to the great cavalry charges of the German imperial maneuvers. No one less than General Langlois, who is selected for a high army command in the event of war, most decidedly opposed those critics who see in the evolution of the cavalry masses, personally lead by the Emperor during the German maneuvers, only a parade maneuver, or at best, only a means to stir up the true cavalry spirit. On the contrary, therein lies a well-considered idea, quite suitable to war.

After all, it was clear in France that hitherto the procedure on the battle-field did not longer entirely meet the modern demands. Experiments were tried here and there, until now, since a few years, a definite direction with tangible results is plainly noticeable. It will be attempted to outline a picture of these efforts, as far as it is apparent from the organization of that branch, from the drills and exercises, and from literature.

That there was in no wise a disposition to renounce, under

proper circumstances, the employment of large bodies of cavalry in combat was already manifested at the beginning of the year 1903 in the newly carried into effect "Reorganizations of the Cavalry Divisions." While until then there existed seven cavalry divisions, each composed equally of one dragoon, one cuirassier and one light-cavalry brigade (hussars and chasseurs), henceforth there is a separation into heavy and light-cavalry divisions only. The former consist of cuirassiers and dragoons, the latter of dragoons and light cavalry. As a foundation for this division, the professional press expressly designated the heavy cavalry divisions pre-eminently as battle-riders on account of their particular qualifications; the light divisions, as clearing up (reconnaissance) cavalry. It is open to dispute whether this measure was happily adopted; here it is only to be ascertained if it rests on the possibility and intention to train and employ, particularly as battle-riders, at least a part of the eight cavalry divisions now on hand. There can be no doubt that a division composed of one-half or two-thirds of cuirassiers is less adapted for the manifold problems of clearing up duties and for combat on foot. The French cuirassier is, as General de Negrier scoffingly remarks, still encumbered with the cuirass, out of sentimental remembrance of the charges at Waterloo and Reichshofen.

A motion in the Chamber whether a conversion of cavalry into mounted infantry is not timely was flatly declined at the time by the Minister of War, without misunderstanding the increased importance of the foot combat.

Contemporaneously there prevailed in literature a strong tendency in favor of the cavalry weapon and its employment in battle. In the unusually numerous compositions in the *Revue de Cavalerie*, there were developed, particularly, the following points of view:

The problem of cavalry in battle is even at this day of great importance. But it can only attack in utilizing favorable moments with the greatest celerity.

If before the attack (charge) it must pass over distances of more or less length, without cover and exposed to the enemy's effective fire, these conditions do not apply. The art of leading cavalry therefore consists in being in readiness, close enough to promptly make the most of the opportune moment.

Cavalry must therefore find ways and means within the fire zone to expose itself as little as possible to the effective

fire, and in spite of this, must closely approach the enemy. How is this to be accomplished?

The means hereto are afforded in appropriate formations, correct utilization of the ground and celerity.

As the infantry has acquired new formations and no longer goes into battle with deeply formed masses, but with thin lines, so the cavalry must also avoid the massed formations on the battle-field, even when invisible to the enemy. The column is guidable and in the hands of the leader easily capable of being maneuvered, and therefore, specially adapted in combat solely against cavalry. But in a battle with combined arms the regimental column is entirely too dense and may lead to frightful losses when it gets into the enemy's fire. With the exception of massing to be in readiness, under completely safe cover, its employment is therefore excluded. Squadron columns might be used with less danger.

Most suitable for the advance, irrespective of cover, when within the zone of the enemy's artillery fire are small columns, for example, the column of fours, or twos, with intervals between them. These increase the difficulty of hitting on part of the hostile artillery and in the forward movement cling to, and readily conform to the accidents of the ground. When gradually approaching the opponent and reaching the zone of his infantry fire, the single-rank line is recommended, if necessary, with intervals. The several squadrons can here follow each other at full distances.

Within the limits of hostile infantry and artillery fire the single rank lines are still the most suitable, if necessary, with increased intervals, but the lines must not always follow each other, they must be formed in checker-boardwise order so that no two lines will fall into the same shot sheaf.

Of course, the handling of cavalry, when employed in such formations, becomes vastly more difficult than heretofore when in close order. It must be understood how to advance from a distance in dispersed order, to pass rapidly in this form over ground having no cover, but to reunite again promptly under protection of cover, until finally the object of attack is neared in line. The individual trooper must move skilfully and independently, keeping his eye directed on the leader. For only by means of signals, not by commands, is leading possible in such extensions. This signifies entirely new tactics, which require the most careful practice.

The employment of these formations on the battle-field demands the utmost rapidity of movements. Under hostile fire it often suffices to move a short distance forward or back, in order to get out of the range of the most effective fire. Just so, one must be versed in dispersing and assembling with the greatest celerity. As a rule, only two things are possible on the battle-field: either to halt under complete cover, or to move under the extended gallop. The gait of 440 meters per minute, as required for this by the regulations, must be considered as the minimum. The extended gallop is not practiced nearly enough on drill. Notwithstanding this rapid gait, order and quiet must reign.

Thus far the deployment of masses into small fronts or thin lines, and also rapidity of movement, offer the means to protect oneself against the effect of hostile fire, but there is yet to be taken into consideration, the skilful utilization of the ground.

Formerly, level ground was sought for cavalry attacks, now it is shunned. Undulating country and the accidents of the ground must be used to approach under cover, as closely as possible to the object of attack. In this, one must understand how to traverse dexterously, if only to deceive the antagonist as to the direction of approach, and finally, to surprise him by appearing at an entirely different place from that which he expected. Having crossed coverless stretches at the most rapid gait, the cover is used to regain breath.

These are the principles of the modern employment of cavalry in battle with all arms combined. In the combat against cavalry alone, however, the mass is held in readiness for the charge.

It is deemed a great error if the conclusion is drawn that, on account of the effect of modern weapons, cavalry can operate only in small units; as is also the proposition of General de Negrier that it be split up in this manner.

It need only be deployed to avoid the fire, and again immediately assembled where this is possible. Nor does the infantry, whose combat formation is the skirmish line, on that account sever its regimental and brigade connections.

In any case, it is granted that, in time of peace, as yet not much inclination has been shown to adjust oneself to the modern demands. As a rule the mass is held together, "cav-

alry ground," that is level ground, is looked for, and straightway a charge is made when the hostile cavalry is found.

The leading men of France are also striving in another direction from the one thus far portrayed to secure the perfection of cavalry. The question here deals with an increased employment of the combat on foot and a suitable armament.

In general, the inclination of the French cavalry for the carbine is at present none too pronounced, but it appears, thanks to the lively espousal of the cause by influential authorities, that lately it is on the increase.

What it is intended to reach is that cavalry, in battle as well as in the clearing up duties, must not lapse into idleness when the charge is not practicable, but that it should embrace every favorable opportunity to make itself felt with the carbine.

The Provincial Firing Regulations for the cavalry which made its appearance on September 7, 1903, and which is to replace the Firing Regulations of 1894, bear out this point of view.

The allowance of practice ammunition has been increased to fifty-eight cartridges per man, that is ten more than heretofore. In addition to this, there has also been introduced, in the cavalry combat, subdivision firing, for which each participant has thirty cartridges at his disposal. From the regulations for the combat on foot, it is to be observed that there exists but one kind of fire, the fire at will, which as a principle is delivered briskly. A command to accelerate its rapidity would only lead to undue hurry, because every trooper of his own accord is already shooting as fast as possible. Furthermore, it is interesting to note that commanders of troops are emphatically instructed to contradict the disseminated error that the employment of the combat on foot is restricted to the defense. The spirit of offense is here too, to be furthered by all means. In training, great value is placed on the manner of skilfully approaching, mounted, to the point where the command is to be dismounted to fight on foot, and on the quick breaking off of an engagement.

The clothing introduced some years ago is well adapted to the cavalryman's employment on foot; he wears short trousers, lace shoes and gaiters. The manner of carrying the carbine on the back has been found to answer; it is secure while riding at all gaits and in jumping, and does not interfere with the rider.

The carbine sight is ranged up to 2000 meters; the ammunition equipment, forty-eight rounds, is, however, too small.

The question of arming with the lance is still hanging in the balance. For years the dragoon regiments of the cavalry division and a number of the other dragoon regiments have been tentatively armed with the lance, without as yet coming to a decision. The objection against the lance is that the trooper, already carrying saber and carbine, is overloaded with arms. Light and less numerous, but rapidly moving cavalry, has always proved itself superior to the heavier armed, over-weighted and slower cavalry.

All essential points of view, then prominent in literature, were brought out by General Donop, an authority on cavalry in France, during the course of the extensive cavalry exercises in 1902. In this there participated one cavalry division, one division of cavalry, composed of three corps cavalry brigades, and a single brigade of cavalry. To each division there was experimentally attached a detachment of pioneers on bicycles and a platoon of machine guns.

General Donop was expressly instilled with the idea to contradict the views of the "new school," that is, particularly those of General de Negrier. In his criticisms, as far as they became known through the press, all previously discussed questions were found.

The case was the same during the great cavalry exercises of 1903. Its foundation and progress offer, in other respects, much of interest, and give a picture of the direction in which, in the course of time in France, the training of cavalry is moving, and what object, in regard to its employment, is striven after. There is extant, especially in the "France Militaire," a whole string of reports concerning its progress; but nevertheless, the descriptions are in part faulty, and for the appearance of many there is no adequate explanation. A safe verdict is therefore not always possible.

Shorter accounts of these exercises were at the time published in the German press. As these accounts are not complete in every respect and contain misconceptions, here and there, it may be well to attempt a more detailed description, based on the ground of the material at hand and with special reference to the points of view heretofore discussed.

The maneuvers took place under the direction of General Poulleau, who, at the time, was commanding general of the

Eighteenth Army Corps, and president of the Cavalry Commission. He has since been retired, having reached the age limit.

The schedule of the exercises was as follows:

August 30th and 31st.—Exercises in two parties, within the entire field. (See sketch 4.)

September 1st.—Rest.

September 2d, 3d, 4th and 5th.—Exercises of cavalry and infantry combined, between Aisne and Retourne.

September 6th and 7th.—Drills by one cavalry division, while the other has a day of rest.

September 8th, 9th and 10th.—Cavalry exercises in two parties on the right bank of the Aisne, north of Rethel.

The Minister of War and General Brugere (the latter at that time the general commanding the army) witnessed the exercises for several days.

WAR ORGANIZATION.

Fourth (Light) Cavalry Division (Sedan): General Durand.

Fourth Brigade of Dragoons (Fourteenth and Twenty-eighth Dragoons).

First Brigade of Hussars (Third and Eighth Hussars).

Two horse batteries.

One detachment of pioneers.

Fifth (Heavy) Cavalry Division (Rheims): General Mayniel.

Third Brigade of Cuirassiers (Third and Sixth Cuirassiers).

Fourth Brigade of Cuirassiers (Fourth and Ninth Cuirassiers).

Third Brigade of Dragoons (Sixteenth and Twenty-second Dragoons).

Two horse batteries.

One platoon of machine guns (two pieces).

One detachment of pioneers.

Second Brigade of Corps Cavalry: General Bonneau.

Fifth Regiment of Dragoons.

Third Regiment of Chasseurs.

Sixth Brigade of Corps Cavalry: General Cuny.

Sixth Regiment of Chasseurs.

Twelfth Regiment of Chasseurs.

Sixth Regiment of Hussars.

One bicycle company (from the 147th Regiment of Infantry).

Besides this, there participated for four days:

Eighty-fourth Brigade of Infantry (Verdun): 151st and 162d Regiments.

The first two days were to be devoted by the cavalry divisions to extensive exercises in relation to an army.

General Durand was to advance with the Fourth Cavalry Division from Stenay on the Meuse, through the woods of Argonne, toward the river Aisne against Vouziers, in order to

secure the crossing of this river and to hold it open for the troops following.

These entered France from the direction of Trier, over Montmedy, and followed the cavalry division at a distance of two days' marches.

In opposition to this, the Fifth Cavalry Division was assembled in the neighborhood of Tagnon (southwest of Rethel, with orders to stop the march of the opponent, and especially to dispute the crossing over the Aisne.

The starting points of both opponents were consequently about 80 kilometers apart, so that for the advance and clearing up duties of the Fourth Cavalry Division a wide operating space was left. The backwardness of the harvest, caused by the abnormal temperature of August, compelled the director, however, to cut out the exercises intended to take place during these two days.

The war situation remained the same, except that the beginning of the movements was transferred immediately to the Aisne. It was assumed that the East-party, consisting of the Fourth Cavalry Division and the Sixth Brigade of Corps Cavalry, in command of General Durand, had already seized the crossings at Vouziers and Vrize without, however, being able to establish a firm footing on the left bank. On the evening of September 1st there arrived for its support a brigade of infantry (the Eighty-fourth), with whose help the opponent was to be driven away on September 2d.

It, the West-party, under General Mayniel (Fifth Cavalry Division, Second Brigade of Corps Cavalry and the bicycle company), was waiting in readiness on the left bank on the heights west of Vouziers, and had orders to maintain itself there until midday, September 2d, at which time it was to expect the support of a brigade of infantry. (Assumed.)

On September 2d, General Mayniel, in compliance with this order, established a strong position at Bourcq, opposite Vouziers, with the Second Brigade of Corps Cavalry, the bicycle-company and his artillery. This position was located on the left bank, on the eastern border of the heights, which here retired several kilometers from the river, and fully commanded the coverless level toward the river. The Fifth Cavalry Division was held in readiness in rear of the position, by General Mayniel, so that it could turn to the right or left, in case the

adversary attempted to turn a flank, either above or below, as it was not expected that a frontal attack would be made.

Contrary to expectations, General Durand placed the brigade of infantry and the artillery in position at Vouziers to attack in front and with the cavalry in rear, awaited the result of the attack.

The attack was executed apparently with a strong disregard of a severe, direct fire from the heights of Bourcq. Under cover of some reconnoitering squadrons only, the artillery was advanced from the east to within 1800 meters of the hostile position. The infantry followed immediately, and almost without firing, and without taking up properly deployed fighting formations advanced to engage in the attack. According to the reports of eye-witnesses the attack would, in reality, have been completely repulsed with heavy losses.

Here, however, most remarkably, it was allowed to succeed. The infantry pressed through Bourcq to the top of the heights. The Fourth Cavalry Division followed up and was presently charged by the Fifth Cavalry Division, which had been drawn out to a flank. The bicycle company on one side, the infantry on the other, as well as the artillery of both sides, sought to engage in this combat. The Fifth Cavalry Division was particularly, most effectively fired upon by hostile infantry from a wood at a distance of about 500 meters. The elucidation of the fight must therefore have been very defective.

There was little of naturalness in this picture. The object of the Fourth Cavalry Division should have been, not to wait the result of the infantry attack, but during that, to engage the enemy from a flank or from the rear. Instead of this it simply put itself in readiness in the usual maneuver-attack style, and with but little suitability grasped the idea of co-operation with its infantry and artillery.

For September 3d, the composition of the parties was changed to the extent that the East-party consisted of the Eighty-fourth Brigade of Infantry, the Second Brigade of Corps Cavalry, the bicycle company and the horse batteries of the Fourth Cavalry Division, in command of General Maunoury; while the two cavalry divisions (the Fourth without its batteries) formed the West-party.

According to the war situation, the East-party had crossed the Aisne at Vouziers, on September 2d, and had reached Tourcelles. On the morning of the 3d, it was to advance to

Rethel and seize it. Hostile cavalry in strength was reported to be there.

On the morning of September 3d the Fifth Cavalry Division of the West-party was at Perthes, where the commander was informed that a hostile column of all arms was on the march from the direction of Vouziers. He was to prevent the column from reaching Rethel. The Fourth Cavalry Division, reinforced by the Sixth Brigade of Corps Cavalry, stood at Novy and received orders to support the Fifth Cavalry Division.

The East-party marched from Tourcelles, on the highway, via Pauvres on Rethel; the Second Brigade of Corps Cavalry was charged with the information and security of the column, while the bicycle company had already been sent ahead in the night to Pauvres, in order to hold open the defile at that place. After the infantry had reached Pauvres, its march was delayed one hour by the foot combat of a hostile regiment of dragoons. Two battalions were compelled to deploy against these hostile marksmen. After they were driven off, the bicycle company, in one bound, made the farther edge of the woods, situated between Pauvres and Menil-Annelles. During this advance they again struck the hostile cavalry, which, however, instead of stopping the bicycle company by occupying the pieces of woods, charged it uselessly, and in reality would have only subjected itself to serious loss. In the meantime, the Fourth Cavalry Division put itself in motion from Novy in the direction of Menil-Annelles, while the Fifth Cavalry Division stationed itself in readiness at Annelles, on the flank of the hostile column and waited here motionlessly, for three hours. Only the before mentioned regiment of dragoons was to delay the opponent in front.

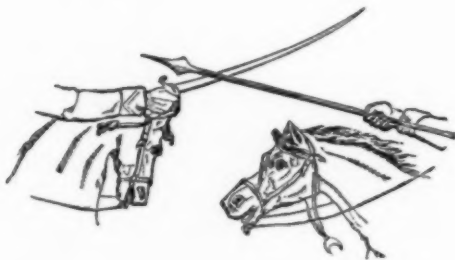
After the Eighty-fourth Brigade of Infantry passed through the woods between Pauvres and Menil-Annelles, it took, in face of the threatening cavalry attacks, the following order of march: one battalion marched in front on both sides of the road as an advance-guard, the center was composed of two battalions, which were thrown out to the right and left of the road as a protection to the flanks, to close, one battalion followed as a rear-guard. Each battalion marched in the open double column. The artillery was placed on the road, in the middle of the square. Evidently the hostile cavalry had already succeeded in this manner, by its mere presence, to

cause the infantry to assume a truly cumbersome order of march, which unquestionably retarded the advance.

But more than this was not accomplished by the cavalry mass of the West-party, as it was repeatedly worsted in persistently charging the ever-fire-ready infantry, on open ground, without any result and without paying any attention to their fire. The purpose which the director had doubtlessly intended to be accomplished in this practice was not reached. It was evidently expected that the cavalry, with its artillery and dismounted troopers, would occupy suitable natural intrenchments squarely across the hostile line of march and compel the enemy to deploy, and then retire, to renew the game at some other point. For cavalry to place itself in this manner in front of a marching column certainly demands adequate, natural intrenchments, which, however, according to all reports, seemed to have been on hand at Pauvres. But should such natural intrenchments not be found, then cavalry must find ways and means to delay the march of the hostile column from the flank, and force it to deploy.

Although both cavalry divisions were separated from the very beginning, the problem was less to fulfil the common object by a march of concentration in a wide space, than by an intelligent understanding as to the different directions, from the front and the flank, it was endeavored to accomplish the result. Consequently, on this day, too, the cavalry failed to fully grasp the problem of operating against hostile infantry.

[TO BE CONTINUED.]



REMARKS UPON TACTICS, WITH REFERENCE TO OUR INFANTRY DRILL REGULATIONS.

BY COLONEL JAMES REGAN, NINTH INFANTRY.



IN a previous paper published in THE JOURNAL OF THE MILITARY SERVICE INSTITUTION for September and October, 1904, we referred to this subject, and this paper may, to a certain extent, be considered a continuation on the same lines, which briefly calls attention to the best tactical ideas of the day as gleaned from actual battles and from the observations of military experts. Our officers should certainly have a sound theoretical and practical knowledge of what is best in tactics as modified by the improvements in armament. Major Hoenig accounts for the heavy losses of the Germans in 1870, because of the lack of knowledge on the part of the officers of the new French rifle (Chassepot). A mistake somewhat similar was made in the Cuban War in sending into action volunteers with a rifle tactically out of date. It is to be hoped that this will never occur again. To make proper calculations in war our officers should, as far as possible, be acquainted with the organization and tactics of the enemy.

The principles upon which our present tactics are based are those embraced in the first editions of General Upton's "Tactics," modified to suit the improvements in firearms, and with smokeless powder, and based upon experience in war. The basic idea is to eliminate from the course of instruction everything that is not absolutely essential in war, or all formations presumed to be obsolete. Certainly the tactics have been made so simple that most men of intelligence and necessary aptitude will readily understand them.

It is well understood that drill regulations are only the expression of general principles, the initiative or great discretion in war or active service must be allowed officers as to details. To this all foreign armies give serious attention and allow a wide latitude in the training of troops. Their tactics prescribe a general method of attack, permitting much elasticity. They cultivate simplicity and naturalness, and cau-

tion against a martinet-like fastidiousness, especially so on points of tactics. The officers are required to use their brains as they must do in battle. The tendency has been, therefore, to cut out all close-order formations, clinging only to those that are considered essential. In some of the best continental armies of Europe the only close-order formations used are those for marching and deploying, much attention being given to the regularity of the step.

The prime object in all military or tactical movements is "perfect order, cohesion, celerity, quietness, a seemingly intuitive perception of every point of advantage at the moment it offers itself and promptness to seize it, together with a harmonious working of the whole to accomplish the end in view." If the strategy employed and the objective are well selected, and security and information have been energetically and intelligently observed, success is assured.

The General Staff in its recent publications is trying to keep up with the times; and it is highly essential that we do so or we shall be made fools of in the first year or two in any great war against any of the war powers of the world, owing to their habit of keeping up in theory and practice with the advanced and most recent improvements in war. "No one," remarks a recent observer, "pretends to believe that any army has yet discovered a system of tactics that it will finally find best suited to it in the progress of war. But all agree that armies trained like those of Europe of to-day, in which subordinates are accustomed to seeing battle maneuvers of masses of troops, and are in the habit of using their discretion in order to conform to the exigencies of the occasion when handling their own men in mimic battle, in actual war will shape their tactics to the conditions more quickly than armies in which there are no maneuvers, and in which formal drills and precise battle formations have destroyed courage to take the initiative and prevented the development of intelligence fitted for the exercise of responsibility."

The importance of the fall maneuvers, or the concentration of our army in large camps was pointed out in a previous paper in this journal; and whether or not such affairs are carried through properly, their value is recognized by the military world. We are conscious of their value, and what every good army in the world, including the latest, the "Little Japs," are doing we should do, not spasmodically, but as a regular

thing. It is not claimed for these maneuvers that they will show "this or that method of combat to be good or bad." They can only "illustrate theories and not prove them." But while they are far from being satisfactory or decisive as to disputed military questions, still their enormous advantages for war preparation are freely admitted.

What is particularly claimed for these large camps is (1) that where the units are properly instructed in advance, they afford excellent instruction for generals and high ranking officers and the staff in illustrating the combined action and mutual support of the different arms, the only way certainly of making capable leaders; (2) that the officers are taught how to supply and care for their troops and to study the strength and endurance of their men while traveling long stretches, and to adapt them to the terrain, and also to estimate the strength of military forces, distances and many useful things incident to war; (3) that they take the men out of barracks and armories to be taught on every variety of ground the most recent alterations in field tactics, to care for themselves under conditions closely assimilating to those of war, in marching, sleeping etc. All fancy moves in drill regulations are dropped, the time and labor of the troops being regarded as too valuable to be thrown away on such affairs, which are of no importance or use on the battle-field.

In future wars much will depend upon the training and discipline of our troops, and the preparation we make in peace for war. If the training is right it will show itself by the readiness with which officers and men adapt themselves to every emergency without reference to prescribed rules. It has been well remarked that in these days, more than ever, a perfect drill book presenting a most skilful method of attack cannot make soldiers succeed, whose individual habits as fighting units are bad.

Our soldiers, due to their intelligence and individuality, are concededly among the best soldiers of the world. But, as one of our observers remarked: "His very individuality becomes a menace and danger for instructives, obedience to the orders given for his future guidance after he has passed out of the control of his officers, which is a *sine qua non* to his success and that of his command."

Victories prior to Napoleon, and during his day, to the present war in Manchuria, have been due to well-disciplined

armies. Well-trained and seasoned troops will bear the severest hardships, even with heavy packs on their backs. Our military observers abroad, from the easy way foreign armies carry their packs, have suggested that our men be required to carry their war packs on drills, on guards and during the combat formations. This might prove useful up to a certain point. Our troops have never been trained in this way. In the old days a few officers would make the men mount guard with their knapsacks, and at odd times as a punishment, but these were spasmodic and never long continued. The soldier's impedimenta becomes terribly irksome on a trying march and in the excitement leading up to battle. During our first day's march from Siboney, the day after our cavalry and the rough riders had their fight, blankets, blouses and other articles were scattered along the road; and when our regiment was in hot pursuit of the enemy, during the series of movements from San Pedro Macarte to Cavite, the men threw away almost everything, stripping to the waist, trusting to luck for food, and the same thing occurred at Tientsin. At San Juan, as we came under the fire of the enemy, blanket rolls were piled on the side of the road. It is the experience of all our wars that when the American soldier is hard pressed, or when he is going into battle, everything but his gun and belt must go. The impedimenta of the Russians in Manchuria was much in their way at critical moments. The veteran will be found with a few crackers in a towel fastened to his belt, and his canteen kept filled for emergencies.

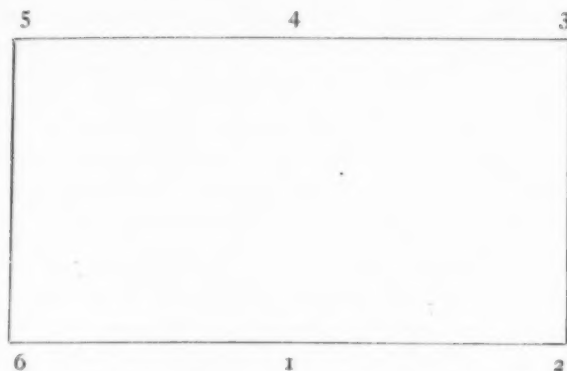
It is a matter to be regretted, and a decided move backward, that our fall maneuvers have been given up, even for a time. Our past history should convince our people that this is a mistake, and if they wish to be thoroughly convinced of this fact, they should read General Upton's book on our military policies, one of the ablest political and military works in our history.

Too much attention cannot be given to tactical subjects, as they embrace nearly the whole art of war. Our present tactics, in its different divisions, prescribe the careful theoretical and practical instruction of officers, non-commissioned officers and privates, and let us remark here that there is no part of the drill regulations which calls for more attention than the school of the soldier, the foundation of all military instruction, the principles of which pervade every other formation

from the company to the highest unit of organization. And if these principles have been carefully imparted to the individual and the squad, the results will show in the more intricate movements.

It is a truism to-day that success in war is due to good infantry, hence the necessity for its careful training. It forms about four-fifths of an army, and upon it, in consequence of the improvement in armament, will devolve most of the hard fighting. Boguslauski, in remarking upon the War of 1870, says that "however great the effect of artillery, however enormous the loss of the French by our shells, there was still no example of a really great result being due specially to artillery." The infantry gave the decisive stroke, as in previous wars. Even as far back as Waterloo the infantry that had been ridden over by the cavalry, had its fire only temporarily interrupted. It is claimed for the cavalry, however, that they still may ride down broken infantry with chances of success. The Germans and the French think so. These matters will perhaps never be settled, but certainly the infantry would fare badly without its accessory arms, the artillery to prepare the way and the cavalry for security and information. The importance of these arms having greatly increased in recent years, an interharmonious action is expected.

In the revision of the infantry tactics, many close-order formations have been left out that were thought essential in prior editions. Let it be hoped that the pruning has been done wisely, and that what remains will be found sufficient for all purposes of war. The Germans, Austrians and other nations have simplified their close-order formations. The first mentioned has still the long columns, double columns and deep columns. A slight reference to the changes in close order may be of interest; and while the battalion is really the tactical unit of the higher organization, we shall consider here only those in the regiment, being the happy medium. By the use of the rectangle or the quadrilateral, the changes may be better perceived and understood. We shall not go into it analytically, but simply refer to it;



This figure may be considered a parade ground, armory or a field of maneuver. Of course it need not be a square; it may take any shape, and diagonal or oblique lines may be indicated. Let us see if the new tactics allow for a regiment to be placed in any position leading up to and incident to battle.

The regiment drawn up in line at No. 1 may be moved to No. 4 in line and by facing to the rear, back to No. 1. This movement may be made from any front and may be made to take any line. This is the same as the old tactics, with but slight changes.

This is the only way prescribed for a regiment to advance in line. Under the former tactics it was allowed to advance in line of platoon columns. This change is, no doubt, due to the fact that abroad the advance in action is the company front, company column of platoons being discontinued. Of course the advance can be made in two or more lines. It was also allowed to advance in line of companies in column of fours.

To the right or left to No. 2 or 6 by squads right or left, or the same by company column, and by facing to the rear, the reverse ground may be gained right or left by obliquing.

These conform closely to the old tactics. The movements breaking from the right or left to march to the left or right, are dropped. They were only a broad countermarch, which, if ever necessary, can be accomplished by the new tactics. The commands for forming the regiment in different lines are omitted, as the same results are obtained by the verbal directions of the colonel. Right forward, fours right, etc., and right

front into line of companies in column of fours, always impressed me as desirable movements in wooded countries. To the right or left front into line, or on right or left into line from column of squads or companies in almost any direction.

The method of accomplishing this is by methods much more indirect than the old tactics, which used the most direct or diagonal lines, which, in a wooded or close country, has much merit. Officers who have handled troops in woods must recognize this fact. Time is a big factor in war. To face to the rear is no longer embraced in the command. There is no special tactical reason for the old command, as the same is obtained by facing about. To form line by two movements from column of squads or company, or on interior battalions, are dropped, as appropriate directions may be given to the rear battalions to take any formation.

Column of masses may be formed:

To the right or left by first forming column of companies or squads.

In movements of this kind on interior battalions are omitted. By former tactics ployment could be made on the center at No. 1. Faced to the rear in the command is also omitted.

To ploy masses to the front, or at No. 1 or 6, is nearly the same as formerly.

It would seem to be more decided if the leading company commander was allowed to judge the distance to the right or left.

To change direction to the right or left from column of masses, is omitted.

This is a compact movement, and one that holds the forces well in hand whenever it might be necessary to change direction for deployment or any other movement. But as such movements are only made beyond effective fire, perhaps the same is obtained by a simple change of direction.

To deploy column of masses by right or left front into line; if to the rear the column must be first faced to the rear.

While these are the only ways prescribed for deploying, the same results are obtained as in the old tactics. It does away with deployments on interior battalions; and the only deployment into separate lines is column of battalions; but any number of lines may be assumed by special directions.

Line of masses:

To the right or left, or right or left into line of masses from column of squads.

This differs but little from the old tactics; but formations on interior battalions, and faced to the rear in the commands, have been omitted; and so with on right or left into line, which might be a very desirable command at times; still nearly the same results are obtained by "to the right or left".

To change front from line of masses is omitted, but the same result may be obtained by two movements.

The platoon formations, having been eliminated from combat formations, have greatly simplified the regimental formations.

Battalions "change direction by the right or left flank," a movement in which the troops are held well in hand, is omitted; and so of "battalions columns right and left," forming column of masses or line of masses.

This subject will not be further touched upon, as the purpose is only to call attention to the changes in close-order formations, the normal order. The regulations require us to have a good theoretical and practical knowledge of close and extended order formations, and to be able readily to apply them, so the conditions at the time must decide the best formation or combination to be employed.

The plan and choice of formations are left to the commander who must conform to the terrain and opposing conditions. The nice parallel lines of the drill ground may have good effect, but there is no question of alignment in the line of battle; a common front and general alignment, with a knowledge of the ground and the objective, is enough. Care, however, must be taken not to impede or endanger others.

The battle is a very orderly affair, the preliminaries and subsequent guidance leading up to it are defined the extended order of the higher units of our drill regulations. We first have the long column of route, next the close order or assembly formations, prior to the extended or dispersed order, and then any formation to meet the varying conditions of the battle. We might cite many examples, but the following will serve as an illustration: Take a division *a la Prussian* as reported by one of our observers, preceded and flanked by the cavalry, coming under the enemy's artillery fire; the division and corps artillery draws out of the column from its position

in the center and goes into battery on the reverse slopes. The location of the enemy having been reported to the division commander he, accompanied by his brigade commanders and staff-officers, rides forward to reconnoiter the hostile lines. The necessary orders are then given to the brigade commanders, designating to each his objective. The reserve is also designated and reported to the division commander. This is all, at first, the general can do, the extensions being left to his subordinates, but he may correct mistakes and determine when and where to use his reserves. The brigade commanders conduct the fight and give to their regimental commanders the necessary orders, designating their places and objectives—and how admirably our tactics provide for this. The brigade, in turn, has its reserves, and so it goes down to the company; each giving the necessary direction and assuming the initiative when necessary. Much depends now upon fearless leadership. The cavalry, having done its part in security and information, is held in rear of the center or on an important flank. This matter may be further touched upon in a consideration of the offensive and defensive of our new tactics.

The great tacticians of the day are of one mind in saying that the success of the Germans in 1870 was due to their skill in handling the higher units or masses, and this they gained in their fall maneuvers. Without such instruction and experience how difficult it must be "to know how to bring the masses into play at the right time; to deploy masses here and there when needed; to combine the movements of the masses."

The German idea is to press ahead with strong lines, and this idea the Japanese are carrying out to-day. They appreciate the importance of close-order formations; and it is a principle of their drill that the soldier should be kept well within the range of the voice as long as it is possible. They certainly should not be advanced or extended until something of the plan or objective is known. If this is not strictly observed, or a wrong direction or objective is taken, it will lead to trouble, and the commander will find himself at the end without troops, as it is almost impossible to regain control. Everything, therefore, should be done with the greatest care, energy and precision, and of this the Japanese are giving us fine examples in all their battles.

The idea of advancing in as compact bodies as possible is far from the old idea of facing each while at 300 yards. Ex-

perience in war, with the progressive improvements in firearms, has taught us better. For example: the Austrians in 1859, when they charged the Prussian extended lines with platoon column in mass; the early battles of the Germans in 1870, when the compact formations gave way to a dispersed order with supports about 450 yards from the skirmish line, and the reserves 900 yards in rear. It was demonstrated then, and later, that the column formation cannot be used within the range of effective fire. In the Turkish War of 1877, according to Greene, the first line of the Russians was of skirmishers, behind which, at 300 yards, the troops marched with dogged bravery in two ranks, shoulder to shoulder, or in company column with platoon front, far inside of effective fire, the attack being really in solid lines; the losses were heavy. General Skobeloff soon changed this formation to open order. Boguslauski says, that "Even in the charge, troops in close order played no considerable part, we may say, only an indirect part. A dense line of skirmishers always preceded them, and how often it happened that during the forward movement they dissolved themselves and ran to join the skirmishers so as to get at the enemy as soon as possible."

A good general rule, and one based upon experience in war, is to bring as great a number of men as possible into the firing line at short ranges, when the men are not too much exposed; but when the men are moving over open ground the line should be kept thin without weakening it too much, or interfering with the forward movement. The Japanese are showing marked skill in this direction and their ways are worthy of study.

[TO BE CONTINUED.]



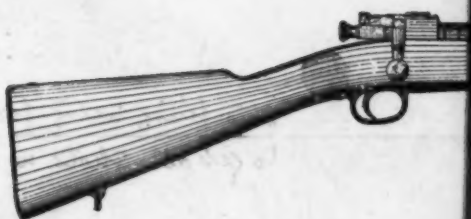
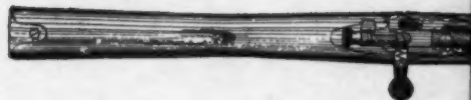
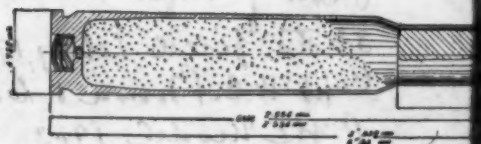


Fig. 127



AMMUNITION

BALL CARTRIDGE.—The Caliber .30 Ball Cartridge, Fig. 127, is a conical body joined by a sharper one, called the shoulder, to provide for extraction of cartridge, and is provided with the month and the year of fabrication are stamped on the head. **REDUCED RANGE CARTRIDGE.**—(Fig. 132.)—This cartridge for full-range practice do not exist, or where, on account of the The Reduced Range Cartridge is provided with a lead bullet about 300 feet per second. With this velocity a range of 300 yds, 600, 900 and 1200 yards, respectively. With the reduced-range at the shorter ranges.

The case of the reduced-range cartridge is colored black, and the reduced-range cartridge is only for use at target-practice.

Fig. 1.



Fig. 2.



Fig. 127



AMMUNITION FOR U. S. MAGAZINE RIFLE

(Ordnance Notes.)

BALL CARTRIDGE.—The Caliber .30 Ball Cartridge, Fig. 127, consists of the case, primer, charge, and a conical body joined by a sharper one, called the shoulder, to the neck, which is the seat of the bullet. The primer is provided for extraction of cartridge, and is provided with primer pocket and vent. The initial velocity of the bullet is 2,800 feet per second. The month and the year of fabrication are stamped on the head of the case.

REDUCED RANGE CARTRIDGE.—(Fig. 132.)—This cartridge is devised for the purpose of providing for full-range practice do not exist, or where, on account of the great range of the standard ball cartridge, the reduced-range cartridge is provided with a lead bullet weighing 220 grains. The charge is about 900 feet per second. With this velocity a range of 300 yards requires a slight elevation of 10°, 500, 600 and 500 yards, respectively. With the reduced-range ammunition and a system of target practice at the shorter ranges.

The case of the reduced-range cartridge is colored black, to distinguish it from the ball cartridge. The reduced-range cartridge is only for use at target-practice.

1.



2.



Fig. 132.



MAGAZINE RIFLE, MODEL OF 1903.

(Notes.)

primer, charge of smokeless powder and bullet. The case is of brass. It has the seat of the bullet, and very nearly cylindrical. The head of case is grooved. The initials of the arsenal where the ammunition is made, the number of

purpose of permitting target-practice to be had in those localities where facilities standard ball cartridge, there are objections to its use.

a. The charge of powder is sufficient to give to the bullet a muzzle velocity of elevation of 1000 yards, and ranges of 204, 125 and 89 yards require elevations of system of targets of reduced dimensions, the full-range target-practice is simulated

the ball cartridge.

1. 025

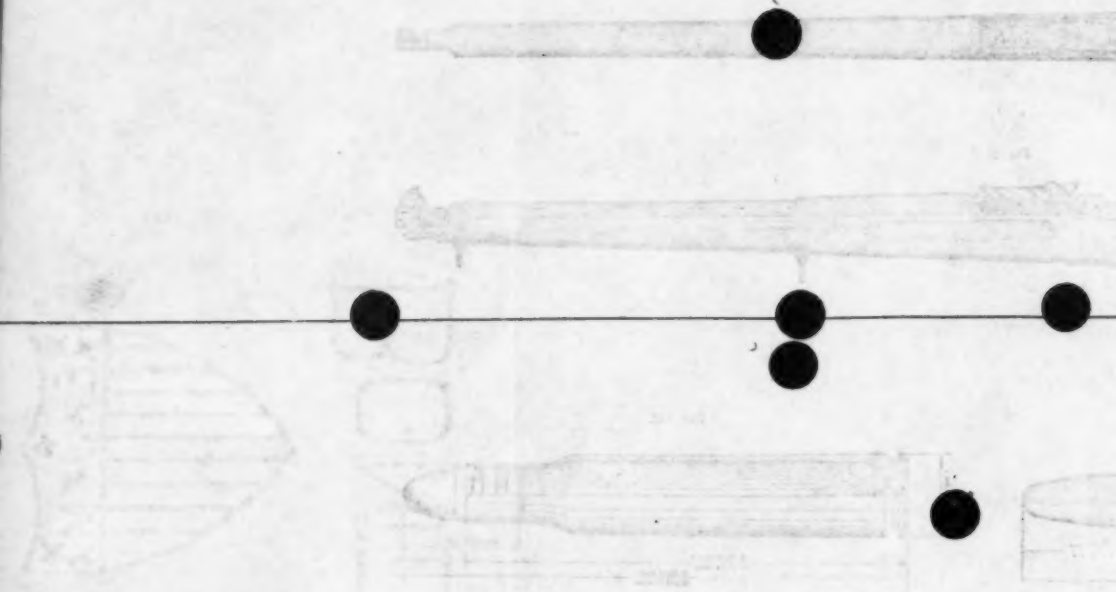


FIG. 1. A. 1. 025

1. 025

The drawing shows a cross-section of a mechanical component, likely a piston or a valve, with a central vertical line and several horizontal lines indicating internal structure or dimensions. The component is shown in a side view, with a central vertical line and several horizontal lines indicating internal structure or dimensions. The drawing is a technical sketch, showing the basic outline and internal features of the component.

1. 025



this firing being for "Elevation" effort was made
to get all shots as close as possible to this horizontal line

Plot of target (exact size) of ten Conventine
shots fired Feb 27, 1904 at 300 yds by
Capt W.C. Brown & Cavalry with U.S. Magazine
Rifle Model 1903. Mean vertical deviation 1.1
" horizontal " 1.9
" absolute " 2.2

Wind 16 miles per hour from 4 o'clock



EXPERIMENTAL FIRING STAND.

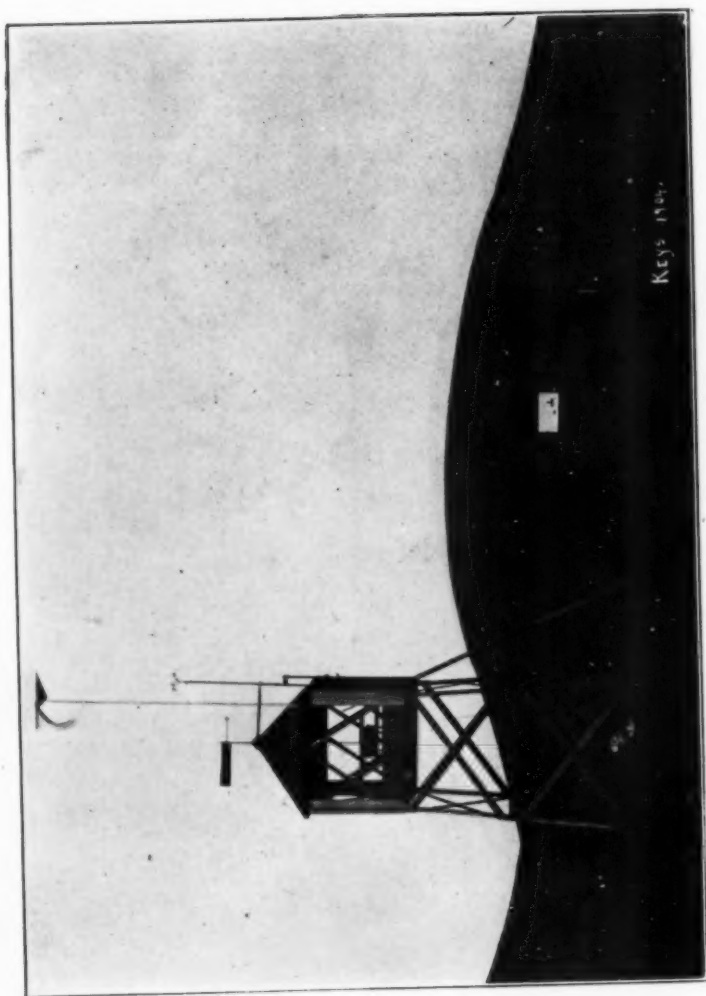
EXPERIMENTAL FIRING WITH THE U. S. MAGAZINE RIFLE, MODEL OF 1903.

BY MAJOR W. C. BROWN, THIRD U. S. CAVALRY.



HE infantry and cavalry will this year be equipped with the most powerful rifle in the world, with new ammunition, and with new cartridge belts. In future the cartridges will come to us in bandoliers instead of paper boxes. For the first time the cavalry will have identically the same arm as the infantry and consequently no longer will it be necessary to have separate competitions for the two arms or to permit the cavalry to qualify as expert riflemen, sharpshooter, etc., on lower scores than the infantry.

The writer offers the following notes on the new arm, based on about seven months' experience with it on the experimental range near Fort Clark, Texas, where some 30,000 rounds were fired from a muzzle rest, at various ranges up to 2000 yards and with accurate record kept of the meteorological conditions, dur-



OBSERVATION TOWER, WITH TARGET IN DISTANCE.
EXPERIMENTAL RANGE, FORT CLARK, TEXAS.

Key: 1907

EXPERIMENTAL FIRING WITH U. S. RIFLE. 491

ing all firings, so as to obtain exterior ballistic data of the rifle. This rifle may not be perfect, and some of its features may meet with criticism, but one thing is certain, it is a distinct advance over our present arm—the Krag and represents many months of hard and patient effort on the part of those ordnance officers most skilled in this line of professional work who have been imbued with the sole idea of turning out the best possible arm.

The aim had been to secure an arm acceptable to the line of the army, whose suggestions have been willingly received.

The following tabulated data, which the rifleman will naturally seek in making comparison of the new and old arms, has been taken mainly from the official descriptions of these arms published by the Ordnance Department:

TABLE SHOWING RELATIVE EFFICIENCY OF THE U. S. MAGAZINE RIFLE, MODEL 1903, THE KRAG RIFLE AND KRAG CARBINE.

	U. S. Magazine Rifle, 1903.	Krag Rifle.	Krag Carbine.
Weight.....	9.09 pounds	*10.65 pounds	8.0 pounds
Length.....	43.43 inches	48.9 inches	40.9 inches
Dist. between sights (leaf down point blank).....	23.32 inches	24.3 inches	16.2 inches
Muzzle velocity.....	2300 feet	2000 feet	1920 feet
Maximum range.....	4781 yards	4066 yards	4016 yards
Weight of bullet.....	220 grains	220 grains	220 grains
Weight of charge.....	43½ to 44½ grs.	35 to 42 grains	35 to 42 grains
Powder pressure in chamber..	49,000 lbs. per sq. in.	38,000 lbs. per sq. in.	38,000 lbs. per sq. in.
Calculated maximum energy of free recoil.....	18.33 ft. lbs.	13.66 ft. lbs.	14.92 ft. lbs.
Mean absolute deviation, 1000 yards.....	13.8 inches	14.9 inches	
(Radius of circle of shots)			
Maximum height of { 1000yds	19.57 feet	28.57 feet	30.19 feet
of trajectory..... { 2000yds	154.85 feet	227.58 feet	234.81 feet

One need go no further than to examine the comparisons in the above table to see the marked superiority of the new arm over the Krag. The infantry is to have a rifle about 1½ pounds lighter, considering weight of bayonet and scabbard of the Krag, but with a distance only an inch less between sights than formerly. Notwithstanding the distance between sights is but slightly decreased, the new arm is nearly 5½ inches

*Weight of bayonet and scabbard both included.

shorter, and therefore more readily handled in close, brushy country than the Krag.

The cavalry must carry an arm a pound heavier and 2.5 inches longer than the Krag carbine, but the distance between sights is increased by over seven inches. It can well afford to carry this slight additional weight and length for the sake of the increased prestige secured by having exactly the same gun as the infantry, and an increase of about 44 per cent. between sights.

Both infantry and cavalry will now enjoy an arm which gives a trajectory about 34 per cent. flatter than that of the Krag, the prestige of carrying a more powerful weapon than is used by any other nation—a matter of satisfaction and pride in time of peace, and of marked practical advantage in time of war.

The increased recoil may at first cause some misgivings, but it is not as great as that of the old Springfield, the predecessor of the Krag. By holding the piece snugly in to the shoulder, men were able to withstand the blow of the Springfield. Our experience at the experimental firings showed that there was no cause for alarm in the somewhat heavy recoil of the new arm. Any man whose physique is so poor that he cannot withstand this moderate shock is entirely out of place in the army.

The report of the piece on discharge is quite sharp and penetrating; much more so than anything to which we have been accustomed, and men will soon learn that it is well during firings not to get too near the muzzles of their neighbors' firing.

These two slight drawbacks—heavy recoil and sharp report—are inherent in a powerful firearm and the writer hazards the opinion that we have about reached the limit in small arms. Construct a still more powerful rifle musket, and you will have a heavier recoil and a more deafening report, to withstand which we must breed a stronger race of men!

In the rifles issued to the cavalry it is thought that the stacking and sling swivels might well have been omitted. The cavalry not only does not need them but their presence requires a slightly more bulky scabbard.

The rear sight gives to the rifleman the distinct advantage of a greater distance between sights than heretofore, which distance is uniform, instead of varying with the range as in case of sights used in times past. It is quite strong



FIRING STAND USED IN EXPERIMENTAL FIRING.

Keyes - 1914

enough for infantry, but the cavalry will probably receive it with some misgivings, as it stands up from the barrel more than to the sight on the Krag, and is consequently more liable to damage, especially when hastily withdrawn from the scabbard. If accidentally turned completely over to the front, a slight blow will bend the leaf, rendering it unserviceable. The test of actual service may (and it is hoped will) show the above fears as to the serviceability of the sight for cavalry to be without foundation.

The very fine knurling on the left of the leaf effectually prevents any slipping of the slide when once fastened.

The rear sight being secured to the barrel by a band instead of being attached by screws, as in case of the Krag, is also a desirable change.

Other marked improvements which will be noted are:

A much lighter, smoother and easier trigger pull of from 3 to 4½ pounds.

A magazine system of the Mauser type which work more smoothly and easily than the Krag, and does away with the unsightly side magazine.

A curved bolt handle, something that will be particularly appreciated by the cavalry, as lessening the thickness of the piece from side to side in the vicinity of the magazine.

A "pull through" with a good brush-wiper attachment, which is snugly stowed away in the butt of the piece.

The numbers on the rifles are in large plain figures. Instead of placing them on the right side, however, it is thought that they might better have been placed across the end of the receiver, so as to be more easily read when standing in the gun rack.

The ramrod-bayonet, adding but little to the weight of the arm, seems to answer all the essentials of this additional means of defense and does away with carrying a bayonet and scabbard attached to the belt.

It is being vigorously criticized by those infantrymen who are strong advocates of the bayonet. In reply to their criticisms it may be said that while the ramrod-bayonet is by no means as formidable as either the old triangular or the more recent knife bayonet, still it is fairly strong, and has withstood the test before the original board, two of whose four members were infantrymen.

It adds so little to the weight of the arm, and is so conveni-

ently stowed away underneath the barrel when not in use, that it will probably *always* be available, and will not be left behind or thrown away on long marches, as so frequently occurred with our infantry in the Philippines. (See footnote p. 500.)

A detachable telescopic sight for expert riflemen and sharpshooters is now being worked up.

The most promising design of telescopic sight so far tested in the effort made to obtain a suitable device for issue to ex-riflemen is shown in the accompanying illustration (page 496).

When completed our best shots should, with its assistance, do remarkably fine shooting.

With the notch of the rear sight exactly over the axis of the bore, the drift (meaning by this, "drift" proper, as well as all other causes of deviation except wind) of the rifle is to the left, varying considerably, however, with different guns. The average drift was found to be about 3.9 inches at 100 yards and increasing to about 1100 yards where it reaches 26.6 inches. It then decreases, crossing the line of fire at about 1800 yards and at 2000 yards is 20 1/4 inches to the right.

The rifling, being a right-hand twist, the bullet should in theory be found at all times to the right of the plane of fire; but as the rifle is discharged there is *something* not well understood, which throws the bullet to the left to the extent above shown.

This has all been practically automatically corrected up to 1000 yards by placing the notch of the rear sight .021 inches to the right of the plane of fire which gives us such slight variations from the true ones, as will be seen below, that we may regard the drift up to 1000 yards as being corrected by the altered position of the notch of the rear sight.

DRIFT WITH CORRECTION AS MADE ON REAR SIGHT.

Range.	Left. Inches.	Right. Inches.	Inches.
100	0.6	.....	0.1
200	1.1	.....	0.4
300	1.4	.....	0.7
400	1.5	.....	1.3
500	1.2	.....	2.1
600	0.6	.....	3.0
700	.....	0.4	4.2
800	.....	1.7	5.6
900	.....	3.5	7.4
1000	.....	6.0	9.4

Deviation of
bullet pro-
duced by a
1-mile wind
normal to the
plane of fire.



U. S. MAGAZINE RIFLE—MODEL 1903.

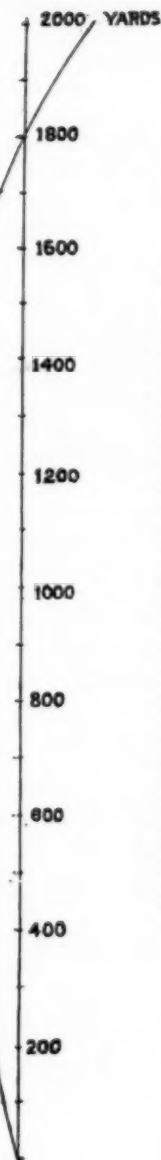


DIAGRAM SHOWING "DRIFT" CURVE OF U. S. MAGAZINE RIFLE (1903).

NOTE.—This has been computed from experimental firings with the line of sight in a vertical plane through the axis of the bore. Calculated by Capt. J. E. Hoffer, Ord. Dept. U. S. A., on results of experimental firings made near Fort Clark, Texas, under direction of Major W. C. Brown, 3d Cav.

A peep sight has been provided, evidently to meet the desires of the few whose main use for the gun is to use it as a sporting or target-rifle, rather than an arm to be used in battle. We did not find the peep-sight to be a success, but regarded it as no great loss, for a peep-sight seems out of place on a military rifle.

Since our experimental firings the peep-hole has been enlarged from 0".04 to 0".45, which has been found to be a great improvement, and it is believed that the peep-sight will now be more satisfactory.

In the verifications of sight graduations for elevation a *strictly half sight* was used in all firings. If we were to criticize the Firing Regulations it would be that they do not put sufficient stress on the desirability of the *exclusive* use of the half sight which is the only sight which can be used in all conditions of weather. The soldier who one day uses a full or half sight and the next a fine sight is rarely a steady shot.


While in the manufacture of the rifle no pains have been spared to secure uniformity, it is an established fact that no two rifles shoot exactly alike.

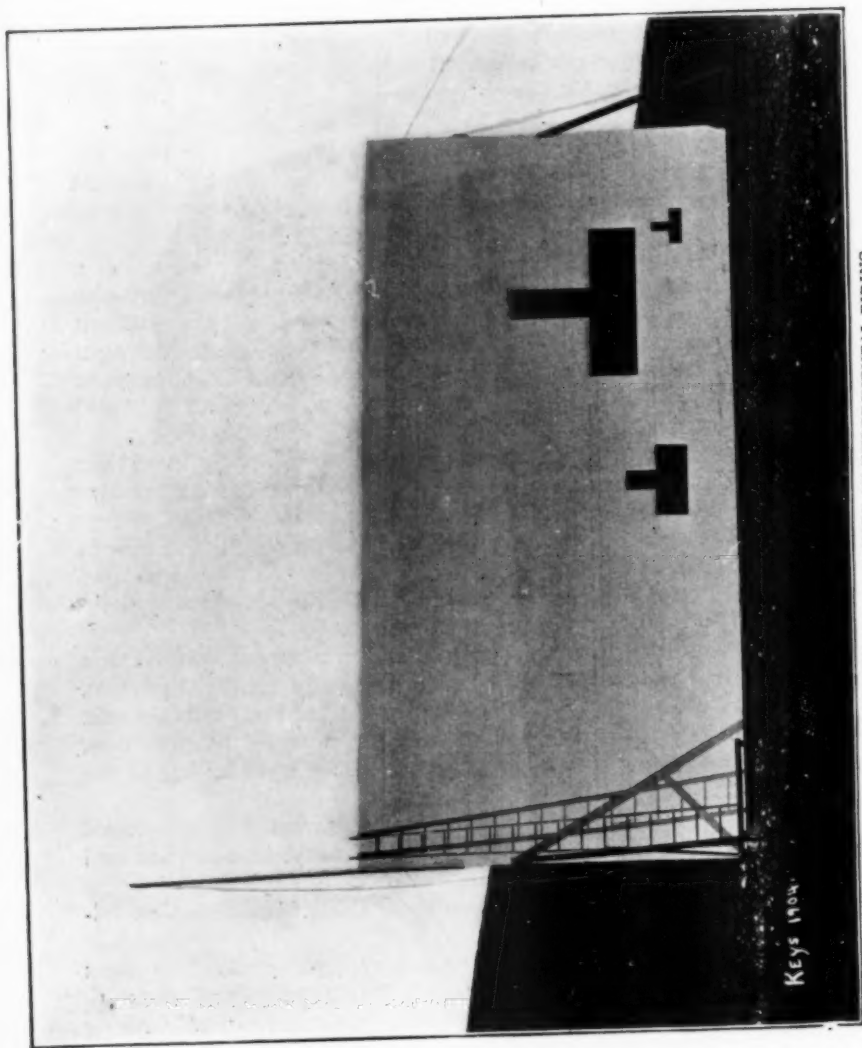
The figures given for "drift" and deviation due to a mile of wind normal to the plane of fire are simply the averages secured from a number of guns from which have been fired many thousands of rounds of ammunition.

While the probabilities are that the rifleman will find that the drift in his rifle has been automatically corrected for him, he may possibly find, if he takes the trouble to test his rifle, that with the wind-gage at zero, on a perfectly calm day, his rifle shoots a number of inches to the right or left of the point aimed at.

It is therefore strongly advised that when a rifle is issued to him the rifleman proceeds to test it at say, 200, 300, 600 and 1000 yards.

Probably the simplest way to do this will be about as follows:

Let the back of an ordinary paper target be ruled in squares ten inches on a side. Now cut a bull's-eye shaped thus  from black paper (tar paper from quartermasters' clothing boxes answers very well for this purpose) and attach it, by pasting or other means, to the middle of the target, the lower edge of the bull's-eye coinciding with one of the horizontal ruled lines, and the middle point being on a vertical line which,



BOARD TARGET (30' x 40') USED IN EXPERIMENTAL FIRING.

of course, exactly bisects the vertical arm of the inverted T-shaped bull's-eye. This point thus becomes the origin of co-ordinates, which is the point to be aimed at.

A 10-inch rule, divided into inches and tenths, is also provided for measuring the location of the shots in the square in which they happen to fall.

The thickness of the horizontal and vertical branches of the bull's-eye are about the same and vary with the range, the vertical branch being of such thickness as to make it apparently the same thickness as the front sight when aiming at the bull's-eye.

A small stand, provided with a muzzle rest for the rifle, and also a stool for the firer, should be supplied. The cut at head of this paper shows the stand used at the experimental range.

Seated comfortably at the stand, with a muzzle rest for the rifle and a rest for his elbows, and firing in perfectly calm weather, with his wind gauge exactly at zero, the marksman fires a number of shots to get the correct elevation, lowering or raising his sight according as his shots are going above or below the base line, which is the line of the lower edge of the bull's-eye prolonged. He then endeavors to get a fairly close cluster, say:—

About 12 inches in diameter	at	200 yards.
" 16	"	300 "
" 30	"	600 "
" 64	"	1000 "

or perhaps with a little greater dispersion of shots, he may fairly conclude that the center of the cluster of ten consecutive shots gives the deviation (right or left) for that particular rifle for the range under consideration.

This firing, it is needless to say, should be done with extreme care and note made of the meteorological conditions.

On a cool, cloudy day the marksman may expect to have to take from 50 to 75 yards more elevation than on a warm day with bright sun.

The enormous pressure in the chamber and the energy expended, cause a gradual wear in the rifling and particularly an eating away of the metal in the chamber.

After from 800 to 1200 rounds have been fired from a rifle there will accordingly be a perceptible reduction in the recoil, and a little greater elevation will be required than under similar weather conditions in the first firings.

This wearing away of the rifling is sufficient to impair the rifle for extremely accurate work after from 1000 to 1500 rounds have been fired. It is still a perfectly serviceable arm for the line of battle, but the expert rifleman, after firing that number of rounds, will probably be obliged to get a new rifle.

Effort is now being made in the Ordnance Department to get a steel for the barrels which can be worked and yet increase the life of the rifle for accurate firing.

The first lot of rifles issued to the army will, however, likely wear about as above indicated.

In the matter of accuracy it may be said that the new rifle is more accurate than the Krag.

In our best records at 300 yards one target of ten consecutive shots could be covered by one's hand (closed) and wrist.

At 800 yards another was covered by a page of legal cap paper.

At 2000 yards the average of a number of targets came inside of an 11-foot square.

The accuracy of the rifle leads to the belief that, with a range finder, or where the ground admits of observing the effect of shots, we may open up on bodies of the enemy at distances greater by several hundred yards than formerly.

NOTE.—It is understood that a knife bayonet, of exactly the same form and dimensions as the Krag bayonet, except that the blade will be 16 instead of 12 inches in length, tempered and ground sharp, will be furnished. It is expected that a metal scabbard lined with wood so as to prevent rattling, and also to protect the edge of the knife will be supplied. No ramrod is to be issued.

As to the omission of the ramrod I would say that in firing 30,000 rounds I never had the slightest use for a ramrod.



HOW MANY MEN ARE NEEDED IN A COAST ARTILLERY ORGANIZATION IN TIME OF PEACE TO INSURE A HIGH DEGREE OF EFFICIENCY IN TIME OF WAR?

By "DEFENSE."



THE tactical organizations of the coast artillery are:

1. The battery.
2. The fire command.
3. The battle command.

The administrative organizations are:

1. The company.
2. The fort or "post."
3. The artillery district.

The administrative organization is secondary to the tactical or fighting organization. To a limited extent they must be called upon for independent operation, and thus far must be provided for separately.

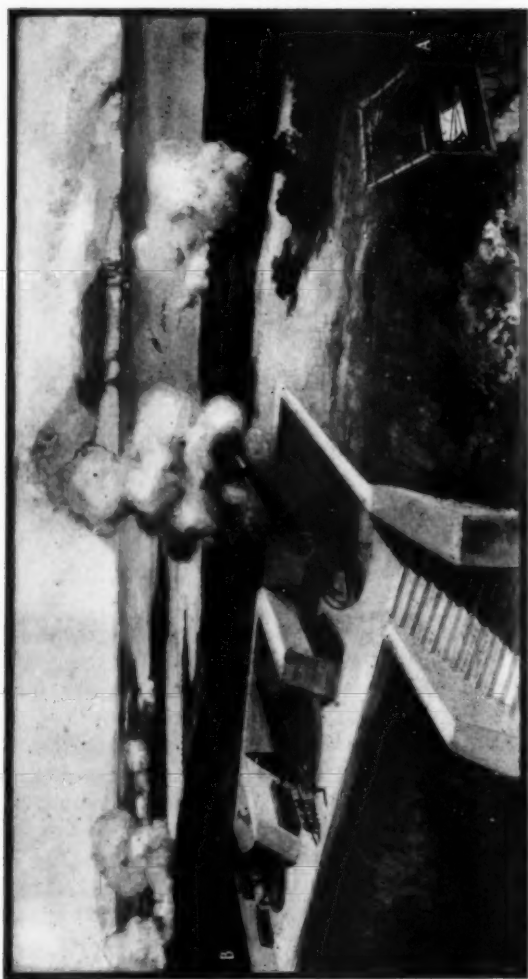
The administrative needs being the less are considered first:

(a) ADMINISTRATIVE ORGANIZATION.

1. *The Company.*—The complement of a battery, that is the men necessary to man the guns, range finders and all accessories, should, as a rule, be furnished by a company. The exceptions are mortar batteries, the complements for which are too large for efficient company administration, and the small rapid-fire-gun batteries, and the position finding systems for fire commands and battle commands, the complements for which are too small for economical company administration.

The standard size for an efficient company has been for centuries 100 men. In coast artillery companies this number should be adhered to as closely as possible, consistent with tactical requirements. Assuming this size for a company, the men needed for administration are:

- One first sergeant.
- One quartermaster-sergeant.
- One clerk.
- One cook or assistant for each twenty-five men.
- Two musicians (orderlies).
- One or more mechanics.



From the New York Herald

FIRE CONTROL OF A MODERN FORTRESS.

The mechanics are required to make ordinary repairs at the battery to which the company is assigned. The number of these needed will vary with the character of the battery armament.

Other administrative duties in the company can, as a rule, be performed efficiently by roster without interfering with tactical duties. One officer is sufficient for company administration. Additional officers are needed for tactical duties.

2. *The Fort or "Post."*—The commanding officer of a coast artillery post has his place in the tactical chain of command as battle commander, fire commander, or battery commander, his particular assignment depending upon the size of the armament at his post and its fighting organization. His staff consists of (A. R. 203) the adjutant, quartermaster, commissary, surgeon, engineer officer, ordnance officer and signal officer. General orders also direct the appointment of a submarine-mine officer at such posts as are provided with a submarine-mine equipment. The extent of the duties of the adjutant of a post in time of hostilities will depend upon the size of the command, but will rarely, if ever, be so immediately important as to make him not available for employment in a fight. It is otherwise with the quartermaster and the commissary. These offices can be filled at any coast artillery post by the same officer, but he should not, if possible to avoid it, be diverted from his duties of procurement and issue of supplies and rations. The duties of the engineer officer, signal officer and submarine-mine officer of a coast artillery post are performed by one officer known as the artillery engineer. He is responsible for the operation of all power plants and search-lights. His duties call for his undivided attention. The ordnance officer of a post is responsible for ammunition and ordnance stores not under the charge of the battery commanders. Local conditions and extent of armament will determine whether or not the duties of ordnance officer require the undivided attention of one officer.

A limited number of enlisted men are always needed in post administration, the efficient performance of which will prevent their assignment to stations at the guns.

3. *The Artillery District.*—All the forts, including mine fields and accessories, such as search-lights, position finding stations, and signal stations in each fortified harbor, are organized into an artillery district. As a matter of convenience

some of the minor harbors are attached to neighboring ones of greater importance for artillery-district administration.

The commanding officer of an artillery district has his place in the tactical chain of command as battle commander or fire commander, his particular assignment depending upon the size of the armament in his district and its tactical organization.

The staff of an artillery district commander consists of the adjutant, artillery engineer, ordnance officer, and quartermaster. The duties of each of these officers are usually such as to require all of his attention. In the smaller districts, however, consisting of a small battle command, one or more of the administrative staff-officers may be used for tactical purposes.

The district artillery engineer is in charge of the procurement and issue of all supplies furnished by the engineer and signal departments, and of supplies for the operation of the submarine mine and torpedo defense; he is responsible for the operation of all electric plants and search-lights, and has other duties incident to these.

The district ordnance officer is in charge of all repairs to the armament, including the operation of the district machine-shop, besides the procurement and issue of ammunition and all ordnance supplies.

The district artillery engineer and the district ordnance officer are respectively the only accountable officers in the district to the supply departments with which their duties are connected.

The district quartermaster, while his duties are confined to the management of water transportation, will be fully occupied with the seduties in time of hostilities, and during active preparation for war. The number of boats of all kinds needed at such a time is large, including torpedo planters, picket boats, despatch boats, launches and boats for the transportation of men and supplies to the various garrisons and outposts.

Each district staff-officer will need a considerable number of enlisted assistants, the efficient performance of whose duties will prevent their assignment to stations at the guns. In the large harbors, commissioned officers and civilians may be needed as assistants.

CONCLUSIONS.

An efficient administrative organization for coast artillery in time of war will require:

1. Organization into companies of as nearly 100 men each as practicable, consistent with tactical requirements. On the basis of 100 men to a company, nine enlisted men will be required for administrative duties, and should not be included in estimates of fighting strength.

2. The administrative duties of a post will require the exclusive service of one officer as quartermaster and commissary, one as artillery engineer, and in particular cases, of one as ordnance officer, and one as adjutant. A number of enlisted assistants will be required for these staff-officers, and the estimates for tactical requirements should be in excess of these men.

3. The administrative duties of an artillery district will require the exclusive services of experienced artillery officers for the positions of adjutant, ordnance officer and artillery engineer. An experienced quartermaster will also be needed. Four officers will then be required for artillery district administration.

It is a military maxim that peace administration should be organized and conducted with a single eye to the effective training and preparation of the military forces of the nation for war. If the most effective training and preparation of the coast artillery for war is to be attained, all the officers and enlisted men needed exclusively for the administration of the coast artillery should be provided in peace. This is recognized to a certain extent in the present legal organization of a company of coast artillery, which includes eight of the men stated above to be necessary, namely, one first sergeant, one quartermaster-sergeant, two cooks, two musicians and two mechanics. The additional cooks are, in practice, detailed from that part of the company which a compliance with the spirit of the law makes available for assignment to the guns. Assuming present rates of pay one mechanic would be enough at many batteries; at others, more than two mechanics should be supplied. In practice, the company clerk is obtained as are the extra cooks.

The provision made by law for the administrative needs of forts and artillery districts is a limited number of field and staff-officers of artillery, sergeants-major, post quartermaster-sergeants, post commissary-sergeants, ordnance-sergeants, master electricians and electrician sergeants. Experience has shown that none of these are authorized in sufficient numbers for the absolutely necessary requirements of peace. The result

is that officers are withdrawn from the companies, where they are needed for proper tactical organization and training, in order to perform staff duties which take all of their attention and time. Enlisted men of lower grades than those mentioned are also needed for the most economical administration. These are now obtained by detail from companies.

To justify this claim for a larger number of men for exclusively administrative duties in the coast artillery than are allowed to corresponding organizations in the mobile army, two essential peculiarities in the employment of coast artillery troops must be kept in mind.

1. The coast artillery weapons require detachments for their use. To reduce the size of detachments means reduction of the rate of fire. To reduce the number of detachments means reduction in the number of pieces served. No more guns are mounted in any harbor than are thought essential for efficient defense.

2. Coast artillery troops occupy a carefully prepared position, whose strength and extent is more or less known to the enemy. The enemy's forces (fast battleships and torpedo-boats) are very rapidly moving, and warning of their approach can at best be given but a short time in advance. The fighting force of the defense, that is *the full number of full detachments*, must be constantly in place and fit. In an infantry line of battle, a few rifles, more or less, withdrawn for handling supplies, either will not be missed or can be replaced from the reserves. There are no reserve guns in a coast fortification.

The fighting strength of coast artillery should not then be called upon for purely administrative duties.

(b) TACTICAL ORGANIZATION.

1. *The Battery.*— Batteries may be divided into two classes, those requiring a position finding system and those not requiring one. The former includes batteries, mounting guns of six inches and greater calibers, and mortars; the latter, guns of five inches and lesser calibers.

By a position finding system is meant the observing and plotting instruments, the electrical communications (telephones, telautographs, and aeroscopes) connecting the stations in which they are placed with each other and with the batteries, and the method of employing these instruments and com-

munications to assign each battery to a target and to furnish this target's corrected range and direction (azimuth) to the guns at short intervals of time. On account of the great ranges at which seacoast artillery is now employed, the causes which deviate the projectile from its theoretical trajectory have great effect, so great that corrections must be applied to the true range and direction of the target in order to hit at all. These corrections are made on the plotting board by means of various mechanical devices which form part of the system and are capable of very rapid operation.

The smaller guns (five inches caliber and less) are intended for use at relatively short ranges, and such corrections as are necessary to make can be applied on the sight by the gunner, as is done in small arms firing. These guns do not require the elaborate system of position finding necessary for the larger guns. When assigned to a target by a fire commander or mine commander the range should be communicated at the same time.

RANGE SECTIONS.

The personnel assigned to the duty of position finding is called the range section. The range section for the heavy batteries varies in size from seventeen to thirty-four enlisted men when the horizontal base position-finding system is used, and from fourteen to thirty-one men when the vertical base position-finding system is used. This section includes the observers and range readers at the range-finders, the plotters and correction computers in the plotting room, the range keepers at the emplacements, and the telautograph and telephone operators at the range-finding stations and at the guns.

The efficiency of a position-finding system depends upon the speed with which it is operated not less than upon its accuracy. The efficient operation of the present system requires the delivery of complete data for use in laying the guns in each battery at the minimum rate of once every twenty seconds. Once every ten seconds is actually practiced by some companies. With men thoroughly instructed in the method of operating the system, a comparatively easy task, it requires no argument to appreciate that long practice is necessary to co-ordinate the individual operations of fourteen men, the minimum number employed, so as to furnish information at the required rate of speed. Experience has demon-

strated that not only long but frequent practice, daily practice for months, is required to produce the required speed and accuracy, with certainty. Efficient preparation for war requires a complete range section trained in time of peace for each battery provided with a position-finding system. A range section cannot be broken up at the outbreak of war to furnish instructed men for range sections of batteries unprovided with them without serious loss of efficiency. Combined daily practice of the individuals assigned is the most necessary requirement. Mere instruction in method does not occupy much time.

Each fire and battle commander requires a range section of the same degree of skill and experience as is required for heavy gun batteries.

Batteries of five inches and lesser caliber guns need a small range section. These are composed of telautograph and telephone operators and range keepers only. Both classes of men require time to develop. They should be provided in peace.

GUN SECTIONS.

The personnel assigned to the handling of a gun, its carriage and the ammunition service, is called the gun section. The gun section is divided into two principal detachments, each requiring a non-commissioned officer as its chief—the gun detachment for the maneuvering, loading and firing of the gun, the ammunition detachment for the service of ammunition. The gun section is commanded by the gun commander. The gunner is a member of the gun detachment.

The gun section for a mortar pit numbers.....	68	enlisted men.
For a 12-inch disappearing gun.....	34	" "
For a 10-inch disappearing gun.....	30	" "
For an 8-inch disappearing gun.....	28	" "
For a 6-inch disappearing gun.....	20	" "
For a 5-inch rapid-fire gun.....	15	" "
For a 4.7-inch rapid-fire gun.....	17	" "
For a 3-inch rapid-fire gun.....	11	" "
For a 6-pounder rapid-fire gun.....	9	" "

The efficiency of a battery is measured by the hits it is able to make in any given time. This ability depends, so far as the gun section is concerned, upon the rapidity and accuracy with which the guns can be loaded and fired, the rapidity and accuracy with which the gun can be laid from the information

furnished by the range section, the intelligent care and rapidity with which the ammunition can be handled, and, when the position finding system fails, the accuracy and rapidity with which ranges can be estimated. The estimation of ranges is properly the function of an officer, but all gun commanders and gunners should also be carefully trained in this work.

All these functions require not only knowledge but practice, and for high efficiency, long continued practice. The knowledge required of any one individual is not difficult to learn or to impart. Given a perfect position-finding service, a sustained rapidity of fire with a green gun section of one shot in four or five minutes, with a twelve-inch rifle on disappearing carriage, say after a week's training, would be considered good. Any regular twelve-inch gun section in the service to-day can maintain a rate of fire of one shot per minute; the best record is one shot every twenty-seven seconds for four consecutive rounds. Assuming the same conditions with mortars, a rate of fire of one pit salvo (four shots) every five or six minutes for the green section to one per minute for the constantly trained section is about what may be expected. It is the universal experience that even with organized and trained sections, after a winter's absence from actual drill, a month or more is required before officers are willing to even conduct target-practice; so much do rapidity and accuracy of service diminish for lack of actual drill. The daily practice of range sections is kept up throughout the year.

2. *The Fire Command.*—A fire command consists of two or more batteries not in general exceeding four, so located that their fire covers the same or contiguous water areas and that they can readily be commanded in action by one man. In action a fire command will ordinarily be assigned to one target or group of targets at a time. The batteries of a fire command ordinarily are of the same general class of weapon—heavy guns, mortars, long-range rapid-fire guns, or small caliber rapid-fire guns. The latter are usually mounted to sweep the mine field and are included in the "mine command". Among the fire commander's functions are the assignment of particular targets of his batteries, the determination of the order and rate of fire, the time to commence and cease firing, etc. He is assisted by one staff-officer, who is in direct charge of all communications, and by a range section similar in all respects to a battery-range section, one of its functions being the supply

of firing data to any battery of the fire command whose position-finding system is temporarily or permanently disabled.

3. *The Battle Command.*—This includes all the fire commands covering a water area within which a naval attack may be expected, and over which one man may exercise efficient control of the artillery-fire action that may take place therein. Besides the fire commands (gun and mortar batteries) the battle command includes mine commands, direct control of all search-lights of the battle command, power plants, and all material accessory to the service of the armament and the personnel assigned thereto.

The battle commander is assisted by the search-light officer, and an officer in charge of communications, and by an enlisted range section of about the same numerical strength, though of somewhat different duties, as other range sections.

The most important development in modern means of harbor defense is the control of a battle commander. By this means the fire of all the armament in a harbor can be concentrated with crushing effect upon any vessels which may come within the radius of action. Without such ability to concentrate it is not difficult to imagine some success in the approach of a modern battleship squadron at least so far as the mine fields. A successful run past any of our modern fortifications would not occupy more than twenty minutes. It can readily be appreciated what is the necessity of co-ordinated and prompt action on the part of forts to meet such attempts when it is remembered that a present day first-class battleship carries a greater number of guns than are mounted in any but our most heavily-armed forts, and that two such ships carry more guns than any single fort in the United States; and that the advantage of greater accuracy of fire on the part of the fort is rapidly decreasing during the approach and ceases at about 3000 yards range, that the inferior limit of mortar fire is about 3000 yards. The fort must establish and maintain its superiority at the longer ranges. This can never be done by batteries acting individually, at least not any such number of batteries as we have available at any one place to-day opposed to any probable number of battleships which might join in an attack. The prevention of bombardment must rest with the heavy armament. Here again the fire and battle commanders' control is essential to success, as has been publicly confessed by the

Russians in explanation of their failure to prevent bombardments in the early stages of the defense of Port Arthur.

CONCLUSION.

Long-continued practice is essential to efficiency in all the elements of the tactical organization of coast artillery, that is, accuracy and rapidity of fire for each battery, and ability to concentrate and distribute fire quickly and with certainty. The information required on the part of individual enlisted men is not very difficult to acquire. The knowledge required of officers, particularly the fire and battle commanders, is much of it very difficult of retention; it is different in kind, but as great in amount as that of line officers of corresponding grades in the mobile army. Constant practice is the great essential. Without this constant practice no real efficiency is to be expected.

To return to the question how many men are absolutely needed in a coast artillery organization in time of peace to secure a high degree of efficiency in war, the only safe answer is a complete complement for all the armament which it is proposed to use, and for the administrative service of this body.

The ammunition passer requires but a few days to train, but without him ammunition cannot be served. Without ammunition service the gun cannot be loaded. Without loading guns the rate and accuracy of loading cannot be tested or determined, nor can the gunner be tested in rapid sighting of a rapidly loaded gun, nor can the gun commander practice the actual command required to secure rapid service. In a fully manned mortar pit (four mortars) sixty-eight enlisted men are stationed. The area of the pit is only fifty feet by seventy feet, most of which is taken up by the mortars. There are three kinds of projectiles for mortars and eleven kinds of powder charges—thirty-three possible combinations of ammunition. The rate of fire should be a salvo every minute, if desired. The target may be changed in the course of an engagement several times, necessitating a change of kind of powder charge and possibly projectile. While firing at the same target the projectile and powder will often change. Between discharges every man must leave the pit and return to his place. Smokeless powder has not been sufficiently developed to enable its use in mortars except for the larger charges. The danger of confusion in a smoke filled mortar pit has been repeatedly dem-

onstrated at maneuvers, particularly at night. The danger of accident even when firing deliberately has frequently been demonstrated, only recently fatally at Fort Banks. Each one of the sixty-eight men must be separately trained for his particular duty. It would be folly to expect efficiency from these men without long-continued combined training under the most careful supervision.

Without fully manned batteries the fire commander cannot practice concentration and distribution of fire; he cannot properly test his electrical communications by the only practical test, daily use; his range section cannot practice furnishing ranges to batteries whose position-finding system is disabled, nor can the batteries practice that instant response to orders of the fire commander, essential to effective concentration and distribution of fire.

Without fully manned fire commands the battle commander cannot practice giving his orders, nor the fire commands practice obeying them; the efficient use of search-lights cannot be developed, nor can the personnel be trained to see by search-light, which requires considerable practice; the power plants cannot all be operated in unison; in short, a skeleton organization for this work cannot be made effective, every element must be represented and in operation.

The policy of the nation as exemplified by the acts of its Congress is to develop its navy. A navy is not designed for passive defense, but for attack, the best means of defense. The sooner the attack is delivered the better.

If our coast fortifications cannot be relied upon to efficiently protect our harbors, the greater part of the navy will stay at home. We can, without trouble, get plenty of men willing to man our fortifications at the outbreak of war, but they cannot be organized and trained to hit except by long practice. No modern battleship squadron would fear the fire of the best guns in the world manned by amateurs. Congress is preparing to furnish sufficient officers and men to man all of our fighting ships, presumably to enable them to strike quickly and when opportunity offers in case of war. This freedom of action for which so much time, effort and money is now being spent cannot be attained without efficiently fortified harbors, manned by a personnel which can *hit*.

THE SURPRISE OF THE TABOR BRIDGE AT VIENNA BY PRINCE MURAT AND MARSHAL LANNES.

NOVEMBER 13, 1805.*

By FREDERIC LOUIS HUIDEKOPER.

(From the original documents in the Ministère de la Guerre in Paris and the Kriegs-Archives in Vienna.)



FROM Nussdorf a small arm of the river, known as the "Danube Canal," sweeps in a broad irregular bow southwardly to the foot of the bastions of the inner city, and, continuing on in a south-eastwardly direction, rejoins the main channel at Praterck, opposite the upper end of the island of Lobau.† The "Danube Canal" of to-day occupies almost the identical channel which it did in 1805, but in other respects the river at Vienna differs very materially from its course at that time. In place of the present straight "Donau Durchstich" (Danube excavation), constructed at an enormous cost in 1870-77 to provide a broad channel on the north-western side of the Prater, numerous islands then diverted the course of the river north of the city into several tortuous estuaries, nearly all of which have since disappeared. The ramifications were especially numerous on the northeast of the Au Garten and in the marshes of what is now the left bank opposite the Prater, and between the two lay the broad but sinuous main channel. At that time the Tabor bridge, constituting with those of Linz and Mautern the only permanent communications between the two banks within the limits of Austria proper, ran in a northwestwardly direction from the present Tabor Strasse to the villages of Jedlersdorf-Spitz and Floridsdorf. Near the site of the modern station of the Northwestern Railway (Nordwest Bahnhof) the road was carried across an

*Continued from the March number of this Journal.

†This point was the scene of Napoleon's desperate attempts to cross the river in May, 1809, in the face of the Archduke Charles. His troops did succeed partly in reaching the left bank, which led to the sanguinary battles of Aspern and Essling (May 21st and 22d), but were forced to retire to the island of Lobau which was converted into an entrenched camp of unprecedented magnitude. Nine days after the arrival of the army under Prince Eugene, Viceroy of Italy, the French successfully debouched from the island (July 5th) and on the following day won the battle of Wagram.

estuary about 150 paces broad by means of an arched wooden bridge conducting to an island 400 paces wide. A bridge, similar in length to the first, led across another estuary to the "Wolfsau" (Wolf's Meadow), an island some 3000 paces in breadth, overgrown with thick copses and dwarfed trees. Across this island the road ran with considerable crookedness northward to the hamlet of Zwischenbrücken, where a wooden bridge of arches, 500 paces in length, carried it over the principal channel to the villages on the left bank mentioned above and there bifurcated, one branch leading to Bohemia and the other to Moravia. The first two bridges were known as the "first and second Tabor bridges" and the last as the "Spitz bridge," although the Viennese termed them collectively the "Tabor bridge." Embracing all its deviations, the length of the road from the right to the left bank at Spitz was about 5000 paces ($2\frac{1}{2}$ miles) and beyond, at a distance of $2\frac{3}{4}$ miles, lay Stammersdorf, the headquarters of Prince Auersperg and Baron Kienmayer.

On the morning of the 13th the Austrians had completed their preparations to destroy this valuable communication. The "first and second Tabor bridges" were only partly made ready for burning but the "Spitz bridge" was thoroughly laid with powder and fuses so that it could be set on fire at an instant's notice. The "Tabor bridges" had additionally been protected by a permanent work in the nature of a bridge-head or barrier known as the "Gatterthor"—to which we have previously alluded—and there Lieut. Nicolaus Herbay had been stationed with two non-commissioned officers and seventeen of the Szekler hussars. The keys both of the main and postern gates had been entrusted to his personal keeping and he had been strictly charged under no circumstances to admit any one except the proper couriers and the usual and "extra post" wagons, and not to open to any of the enemy's flags of truce, the arrival of which he was at once to report to his superior, Col. Gabriel Freiherr Geringer von Edenberg, who had been especially detailed with the regiment of Szekler hussars from the Austrian rear-guard to make the final preparations to destroy the bridges. He had established his headquarters at Zwischenbrücken with the bulk of his command and had posted four doubled vedettes between that hamlet and the "Tabor bridges" in order to expedite the correspondence with the "Gatterthor" and to transmit promptly any signal of the

French approach. In case the enemy put in an appearance or made any attempt to force his way through, the carbineers of Herbay's post were instructed to fire off their pieces and to ride back as fast as possible; upon hearing the discharge of their carbines all the other vedettes were to repeat the signal and the artillerymen stationed at the "Spitz bridge" were at once to set fire to it.*

In the face of such formidable preparations Bertrand, Lanusse and Mossel advanced with seemingly foolhardy courage. Geringer had hoped that he could gallop on ahead and meet either Auersperg or Kienmayer—both of whom he presumed to be on their way to the "Tabor bridge" in answer to the urgent summons which he had sent them—before the French officers, who would of course ride more leisurely, could reach the "Spitz bridge," and that the time thus gained would still permit the bridge to be destroyed, if necessary. Unknown to him, however, Bertrand and his companions had hatched a cunning plot and, far from allowing him to carry out his design, dogged his very steps and reached Zwischenbrücken close on his heels. The artillerymen at the "Spitz bridge" had heard the signal shots and instantly hastened to prime the fuses, but were only prevented from lighting them by the arrival of the hussars which had galloped back from the "Gatterthor" and announced that the colonel was then on his way. They stood nevertheless with matches burning and lanyards in hand ready to set fire to the explosives and to sweep the bridge with grape-shot, and their attitude was so threatening that, in spite of being accompanied by Geringer, the French officers were compelled when only a few paces from the cannon to call out to the gunners not to fire, since an armistice had been concluded and they were going to meet Prince Auersperg. Nothing but the presence of the Austrian officers prevented their being blown into pieces and their courage was rewarded by their reaching the left bank unscathed. Here however an-

*Apropos of these preparations Marbot makes the following excellent comments (*Mémoires du Général Baron de Marbot*, I. p. 238):—

"When the Austrians defend the passage of a river they have the very bad habit of preserving the bridges over it until the last moment, in order to retain the power of making counter attacks against the enemy who almost never gives them time to do this, and carries by assault the bridges which they have neglected to burn. This is what the French did in the Italian campaign of 1796, at the memorable actions of Lodi and Arcola. Nevertheless these examples could not cure the Austrians of the habit, for after having abandoned Vienna—which was not capable of defense—they retired across the Danube without destroying a single one of the bridges thrown over this mighty watercourse, and confined themselves to distributing combustibles over the flooring of the main bridge, so as to set it on fire when the French should appear."

other hitch occurred, for neither Auersperg nor Kienmayer had arrived nor were they reported to be in that vicinity; but, although considerably perplexed, Geringer resolved to let events over which he had no control take their own course, and, announcing to the French officers that he would conduct them to headquarters, the four at once started for Stammersdorf.

Meanwhile Murat and Lannes had crossed Vienna and the Leopoldstadt at the head of their corps and had reached the "Gatterthor" where a halt was made and the barrier forced open. The two Marshals continued across the "first and second Tabor bridges" and the Wolfsau, their advance completely masked by the retreat of Herbay's detachment and by the tall bushes and thick trees with which the island was overgrown. At Zwischenbrücken, Murat, Lannes and the officers of their staffs dismounted, and their escort—a platoon of the 10th hussars—was posted a short distance in advance at the entrance to the "Spitz bridge." While the Prince sent back an urgent order for the leading brigade of grenadiers, which had been halted at the entrance to the first Tabor bridge, to hasten its march, General Belliard, his chief-of-staff, accompanied by two staff officers, advanced on to the bridge where, with hands crossed behind their backs and conversing with an air of great seriousness, they paced to and fro. Marshal Lannes and two of his officers soon joined their walk which was given every semblance of a constitutional saunter. The length of their promenade in the direction of Spitz was increased with every turn until at last they reached the northern end where the Austrian troops were massed with guns unlimbered ready to sweep the bridge. Their movements had been partly concealed by the detachment of Austrian hussars which had fallen slowly back from Zwischenbrücken before them, otherwise they would undoubtedly have been arrested at the southern end of the bridge over the main channel.* The Austrian commander at first positively declined to receive them, but in view of the *pourparlers*, his difficulties were overcome and he was persuaded to go forward to converse with them. Marshal Lannes repeated what General Bertrand had already told him about the negotiations for peace which had been currently rumored in both armies for some time, assured him that in a few days they would be allies

*De Ségur declares (I, p. 231) that they waved their handkerchiefs, which undoubtedly helped to throw the Austrians off their guard.

and the best friends in the world, and ended by exclaiming: "Why are these guns pointed against us? Do you want to fight us? Come, turn them round, we're friends!" The unwitting commander permitted himself to be duped by Lannes' evident sincerity and immediately gave orders for the guns to be faced in the other direction and for the soldiers to stack their small arms.

During the time gained by this adroit stratagem, the leading brigade of grenadiers had reached Zwischenbrücken and Murat had ordered the first platoon to move forward on to the "Spitz bridge" with such short steps that its advance would be well-nigh imperceptible. In its rear, thoroughly masked, followed a number of sappers and artillerymen who had been instructed to throw into the river all the combustibles with which the flooring had been so liberally strewn, to pour water on the powder trains and to cut all the fuses in such a way as to prevent the destruction of the part already occupied. At the other end of the bridge Lannes and Belliard were doing their utmost to divert the attention of the Austrian elsewhere, but his vocabulary in French was so very limited that the discourse was confined principally to the remarks of the French officers who had great difficulty to "make conversation" sufficiently to keep him from watching this operation. At length he observed the advance of the grenadiers* and endeavored to make it understood that he perceived "that they were marching across the bridge and that they ought not to do so." The French officers hastened to explain "that they were merely keeping in motion and marking time in order to keep themselves warm, because the day was very cold." Evidently satisfied, the Austrian commander permitted the matter to drop *ad interim* until this platoon had managed to get nearly three-quarters of the distance across, but the turn in the road, where it issued from Zwischenbrücken and where the vegetation was comparatively sparse, revealed the rest of the brigade advancing on to that end of the bridge. Captain Johann Bulgarich of the Szekler infantry regiment, who commanded the artillery, was the first to catch sight of these troops and, realizing the stratagem, promptly shouted "*Gunners, fire! fire! The French are com-*

*Marmont declares ("Mémoires du Maréchal Duc de Raguse, II, p. 337) that "an old artillery sergeant brusquely approached the Prince (*sic*) [*i. e.*, the commander] and said to him impatiently and angrily: "General, they're mocking you, they're deceiving you, and I'm going to fire the pieces."

ing!" His troops sprang to their arms, the guns were instantly wheeled into position and in another second the bridge would have been swept from end to end by their grape-shot. But the Austrians had to deal with men whom danger could not daunt nor crisis disconcert, and even before the gunners had time to fire, Marshal Lannes on one side and General Belliard on the other had seized Bulgarich by the collar, Colonel Dodde de la Brunerie of the French Engineers snatched the match which he was about to apply to one of the guns and choked him vigorously, while all three shouted at the top of their lungs so as to drown his commands. They declared most vehemently that they would hold him responsible for every drop of blood shed, and put on such a remarkably bold front that they finally succeeded in cajoling his superior into countermanding the order to fire.* By a remarkable piece of good luck, at that very instant came the announcement of the arrival of Prince Auersperg and Bertand; Captain Bulgarich was compelled to swallow his wrath with the best grace that he could muster, and the French officers doubtless heaved a sigh of relief as they realized that the critical moment had been averted. A few minutes later Auersperg reached the bridge and, upon inquiring for Murat, was met by Marshal Lannes who had hurried to him. Conformably to Auersperg's request a French staff-officer was at once despatched to Murat to announce that the Austrian prince was coming to meet him, and he was further secretly instructed to proceed with all speed to report the situation to Murat and to give urgent orders to hasten the arrival of the grenadiers. Lannes began his conversation with Auersperg by a most violent complaint against the conduct of Captain Bulgarich and by demanding that he should instantly be superseded and punished; his rank, his vehement expostulations and the authority with which he pressed his inflexible demands completely overawed the vacillating old Austrian Marshal who ended by complying to the extent of revoking all the orders which imperilled the safety of the French. Disconcerted by the confusion which had risen from the intermingling of their officers with the French and by the excited conversations that had followed each other in rapid succession, the Austrians likewise

*Marmont says (II, pp. 337-338) that "The moment was critical; everything was about to be lost when Marshal Lannes with that presence of mind which never abandoned him and that finesse, that instinct of the human heart which is an appanage belonging to the Southerners, called to his aid the Austrian pedantry and cried out: "How is it, General, that you permit yourself to be treated thus?/ What's then become of the Austrian discipline, so vaunted in Europe!"

fell into the snare laid for them and refrained from firing; but before they recovered from their consternation and before Auersperg had finished protesting against the advance of the French troops—thereby involving himself in a long harangue in which Lannes was astute enough to encourage him and non-committal enough to end by referring him to Murat—Oudinot's grenadiers had charged across the "Spitz bridge," sprung upon the gunners, snatched the matches from their hands and overpowered them. At quarter past one o'clock this most valuable bridge, which might readily have changed the fate of the entire campaign, was completely in the possession of the French who were thereby made masters of both banks of the Danube. The trick had been played, the one trump-card left to the Austrians had been taken, and this comedy of errors was at an end.*

The skill, adroitness and audacity with which the French officers played their rôles in this stratagem deserve the utmost praise, but one must confess that the achievement was marred by a breach of good faith which neither the amazing ingenuity displayed nor the remarkable success obtained can in justice palliate. From a military standpoint alone the immense strategical importance of this great bridge unquestionably justified any method however devious which might gain possession of it intact and without loss of life,† but judged by the standard of pure ethics the means resorted to were far from worthy of officers so intrepid and already so illustrious, and even the French considered them very sharp practice.‡ That the result was accomplished without so much as the wounding of a single man, was mainly due to the conflicting opinions

*This account which is taken mainly from the *Journal de opérations de la Réserve de Cavalerie*—as written by General Belliard himself—Murat's report of November 13th, 9 P. M. (*infra* pp. 523-524) and from the evidence produced at the court-martial of Auersperg which is given by von Angeli, "Ulm und Austerlitz," (*Mittheilungen des K. K. Kriegs-Archivs*), pp. 323-331.

Almost every history of the Napoleonic Wars dwells with more or less stress upon this remarkable capture, the most important being the narratives of officers who were present with the army, such as Dumas, XIV, pp. 29-30; de Ségur, I, pp. 230-232; Savary, (*Mémoires du Duc de Rovigo*), I, pp. 44-46; Rapp, pp. 57-60; Ménéval, vol. I, pp. 395, 396; Marbot, I, pp. 237-240. Marmont, II, pp. 336-338; and Jomini, "Life of Napoleon," vol. II, pp. 119-120, as well as biographies such as Thoumas, "Le Maréchal Lannes," pp. 122-126, and Stiegler's, "Mémoires of Marshal Oudinot, Duc de Reggio, pp. 35-37.

The accounts given by Schönhals, "Der Krieg 1805 in Deutschland" p. 139, and Rüstow, "Der Krieg von 1805 in Deutschland und Italien, pp. 285-286, are extremely brief.

†Witness the tremendous losses incurred in May, 1809, when the destruction of this same bridge forced Napoleon to make repeated but fruitless attempts to cross in the face of the Archduke Charles.

‡Compare Marbot, I, p. 240. On the other hand, Thoumas aptly says (*Le Maréchal Lannes*, p. 126) that "If one now wishes to apply to the conduct of the two Marshals the adage 'The end justifies the means,' it would be difficult to find an action better justified."

among the Austrians, coupled with the lamentable vacillation and lack of foresight upon the part of the weak Prince Auersperg who appears to have subordinated his every opinion to the influence exercised over him by Count Wrba. During the morning when the events occurred which were to make him forever ridiculous in the eyes of the world and for which he was later deservedly punished,* he had held a conference with F. M. L. Kienmayer and Kollowrath in his headquarters at Stammersdorf, during which Herbay's two reports had reached him. Shortly after midday Herbay had arrived in person to report the events at the "Tabor bridges" and to announce his conviction that the enemy was making undisguised efforts to force a passage. Kienmayer promptly ordered him to "Say to the colonel that he will at once allow the bridge to be burned" but Auersperg overrode him with the announcement; "No I shall ride there myself immediately, for I must first see what Count Wrba wants to talk to me about. Besides my adjutant, whom Count Wrba would certainly have sent me in case of danger, has not yet come back."† He was moreover fully convinced that in accordance with the agreement, the French would not occupy Vienna until the return of Gyulai from Napoleon's headquarters, and he was furthermore ignorant that his aide-de-camp had been made a prisoner and retained by Murat upon some trivial pretext, despite his mission as a flag of truce. Just as he was leaving Stammersdorf it was reported to him "that an enemy's column stood on the first Tabor bridge and that Colonel Geringer had crossed the Spitz bridge with Napoleon's adjutant-general." Kienmayer again begged him to order the bridge destroyed but got no more satisfaction than the retort "that he was going to ride there himself and get an explanation from Count Wrba." Midway to Spitz they met Geringer and Bertrand, and were assured by the latter that an armistice had been concluded, but still Kienmayer exhorted him to have the bridge burned. Colonel Geringer offered to ride back himself and in case of any danger to make the necessary dispositions, but Auersperg could not be brought to realize that there was the least urgency for rapid action and merely replied to Kienmayer's

*Auersperg was first condemned to death but his sentence was subsequently commuted. He was, however, dismissed from his command deprived of the order of Maria Theresa, imprisoned for three years and compelled to pay a large fine.

†During the morning†Auersperg had sent his aide-de-camp, Captain Geyger, to Wrba with a letter, the contents of which are given by von Angeli, pp. 324-325.

proposal that the troops be put on the alert for any emergency, "that he would no doubt order this." Kienmayer then rode off in disgust to have his own troops at least in readiness, leaving Bertrand free to tempt Auersperg with Murat's very alluring proposition to attack the Russians alone, provided the Austrians did not oppose his crossing. The Prince felt his position weaken under the pressure of such an enticement, but suddenly a presentiment dawned upon him that while his attention was being riveted there by trivial things, momentous events might be transpiring elsewhere; he therefore broke off the conversation very abruptly, and brusquely informed Bertrand "that he wanted to communicate in person with Murat." The French aide-de-camp made not the slightest objection and together they rode rapidly to Spitz where they were amazed to find themselves looking into the muzzles of the Austrian guns that had been turned away from the bridge across which the French grenadiers were advancing in close column. In a few minutes Oudinot's troops had reached the left bank and overpowered the Austrian gunners, but when Auersperg made a decidedly vigorous protest, Lannes, having gained complete possession of the bridge—which was all that he wanted—condescended to suspend any further advance and personally accompanied him across the "Spitz bridge" to Zwischenbrücken, where Murat and Count Wrba were found. Murat overwhelmed him with the delighted exclamation "but it's a complete surprise!" and informed him positively, but at the same time with the utmost courtesy, "that he could not possibly retire his troops; that he was master of the bridge and at the first shot would destroy and take prisoners all the Austrian troops; and that he would grant them an unopposed retreat and would respect their territory only in consideration of the real negotiations for peace then pending." Auersperg confined himself to discussing the unenviable position of Francis and himself, and to expatiating on his own duties. Murat strongly advised his going to Vienna to see Napoleon, whereupon he replied "that he would be glad to greet the Emperor Napoleon" and added "I am more of a Frenchman than you think!" After a conversation of considerable length he set out for Vienna, having first given orders for his corps to retire by the highroad to Moravia and sending an officer to acquaint Kutusoff with the change of affairs, and ending by condemning

heartily the Austrian ministers who had been the instigators of the war.*

When the news of the arrival of the grenadiers at the left bank reached him, the delighted Prince hastened to apprise the Imperial Headquarters of his unqualified success by means of the ensuing report which was entrusted to General Bertrand:

Bridge-head of Vienna, 22nd Brumaire, Year 14. 1.30 P. M.

PRINCE MURAT TO THE EMPEROR.

SIRE:—Your Majesty's troops have taken possession of the bridge at Vienna in pursuance with your orders, and at this moment they are crossing the Danube. I am directing them on Korneuberg, where I hope that they will arrive this evening. From there I shall push them as vigorously as possible against the Russians. In the meantime I am going to make reconnaissance along all the main communications on the left bank of the Danube.

I have the honor, etc.,

MURAT.

During the time occupied by the conferences with Auersperg Oudinot's entire division of grenadiers had crossed the river and were followed in turn by Treillard's hussars, Suchet, Walther and Nansouty, while d'Hautpoul halted in Vienna and was quartered near the Burg Palace; Milhaud's light-cavalry brigade moved from Tulln to Klosterneuburg† and Fauconnet (chasseurs of the Fifth Corps) remained in the villages near Laxenburg to intercept all the communication with Hungary and Italy. Count Wrba had stayed at Zwischenbrücken after Auersperg's departure for Vienna and made no secret of his opinion of the perfidy with which the French had acted and especially of his extreme regret that Auersperg had been made the victim of such base deception, which caused Murat to reply with no little amusement: "Why, he's a very gallant man, he was not in the least at fault. If anyone was in the wrong, it was perhaps I who did a bit wrong."‡ Shortly afterward the Prince rode across the bridge to Spitz in order to direct the movements of his troops toward Stockerau and to flood his route with cavalry;§ in the vicinity of Spitz he was

*The above account is drawn from the evidence produced at Auersperg's trial—given by von Angeli, pp. 329-331—supplemented by Murat's report of 9 P. M. and the March Journal of the Reserve Cavalry.

†Milhaud did not cross until the 14th (*vide* Murat's second report of 9 P. M. *infra* pp. 523-524) in spite of the erroneous statement in the "Historique du 16e Régiment de Chasseurs," p. 36.

‡Wrba's testimony at Auersperg's court-martial.

§Pursuant to Napoleon's order of November 12th, 5 P. M. *Vide supra*, March number Journal M. S. I., pp. 286-287.

met by Kienmayer and Colloredo and, upon their agreeing to separate from the Russians, Murat promised not to fire on their troops without a previous warning. Part of the Austrians remained to assist in guarding the northern end of the bridge but the bulk of Auersperg's corps fell back along the road to Poisdorf and took position in the neighborhood of Wolkersdorf (headquarters). Thanks to the negligence of its commander, Colonel Theiss, Quartermaster-General, the entire Austrian Reserve Artillery remained at Gerasdorf in total ignorance of the retreat of the corps, was completely surrounded and compelled to surrender to the French next day in spite of Murat's promise. Marshal Lannes and General Walther established their headquarters at Korneuburg with the grenadiers and the dragoons, of which the 3rd brigade (Boussard) was sent on to Stockerau to obtain news of Mortier,* while Lang-Enzersdorf and Strebersdorf were respectively occupied by Suchet and Nansouty, both of whom posted strong guards at the bridge. It was dark before Murat rode back to the city where Belliard had established his headquarters near the Kärntner-Thor in the palace of the Archduke Albert of Sachs-Teschen, appointed General Hulin Governor of Vienna and hastened to send off the two ensuing reports:

PRINCE MURAT TO THE EMPEROR.

22nd Brumaire, Year 14.

SIRE:—As I had the honor to report to Y. M., the city of Vienna is occupied, and by the aid of a slight trick we made ourselves masters of the bridge. Generals Bertrand and Mossel and Major Lanusse, my aide-de-camp, had been commissioned to get possession of it and had marched to surprise it at the head of the 9th and 10th regiments of hussars and the 10th and 22nd dragoons and three pieces of cannon. They advanced so rapidly, and the barrier which closed the road before them some distance in front of the bridge, was surrounded so quickly, that two vedettes which had been placed there had barely time to flee, after having fired shots from their carbines into the air. Upon reaching the bridge the hussars succeeded in stopping a man who was going to set fire to the contrivances strewn from one end to the other. Since it had been seen that if the troops advanced the burning would begin from the direction of the left bank, they were made to halt, and Messrs. Bertrand, Mossel and Lanusse advanced alone. They were about to be riddled by grape-shot had they not cried out to the gunners, from whom they were not more than four paces, that they were going to Prince Auersperg who had that morning asked for an interview with me. They were allowed to pass. At the same instant I arrived after having crossed the city at head of the division of grenadiers. Marshal Lannes, who accompanied me, forthwith moved with

*Compare Picard, "La Cavalerie dans les Guerres de la Révolution et de l'Empire" I. p. 204.

several officers to the opposite end of the bridge. While they chatted with the Austrians and sought to persuade them that they ought not to oppose our crossing, I caused a brigade of grenadiers to file (on to the bridge). Seeing it advance, the Austrians again wanted to fire, but the firmness of Marshal Lannes overawed them and once again prevented their firing the cannon. In the meantime Prince Auersperg arrived and demanded to see me. He talked with me about his duties; I talked with him about his position and that of his master. Meanwhile the grenadiers finished crossing, and by his orders the Austrians retired by the road to Brünn. Prince Auersperg seemed to me an excellent man; he told me that he would be happy to greet H. M. the Emperor Napoleon and added, "I am more of a Frenchman than you think." He left me, cursing the ministers who were the authors of the war. Generals Kienmayer and Colloredo came to see me; they promised me to separate from the Russians, and upon this condition I promised them, in my turn, not to have them fired upon without warning them. I am free to have them told, when it shall please Y. M. so to order, that this species of truce is broken * * *

I have the honor to be, Sire,

Your Majesty's, etc.,

MURAT.

HEADQUARTERS OF VIENNA, the 22nd BRUMAIRE, Year 14, 9 P. M.

The second report informed the Emperor that General Hulin had been appointed Governor of Vienna and General Macon of Schoenbrunn; that the troops were established in Vienna awaiting the arrival of the Third Corps; and that Fauchonnet and Milhaud would cross the Danube on the following day.

Murat doubtless went to sleep that night with a feeling of extreme satisfaction and a pleasing conviction that the remarkable success achieved would immediately reinstate him in Napoleon's good graces and far more than compensate for the Emperor's erroneous belief that he had blundered in rushing on the army to Vienna. His former misgivings were replaced by joy, and early next morning Napoleon's expressions of delight again restored him to his normal buoyant spirits.

In the rear of the vanguard of the Grand Army the arrested movement gave place to a general advance by all the army corps. The headquarters of Marshal Davout were carried from Heiligenkreutz to Moedling, and that night the Third Corps occupied the various villages in close proximity to Schoenbrunn, extending from Hetzendorf and Inzersdorf south through Baden to the Treisting. The Third Dragoons, which had formed the rear-guard throughout the march from Steyer, continued from Fahrafeld to Baden, thence north on the heels of Viallanes and Heudelet, and that night formed the

link which connected Caffarelli and Gudin with them, by occupying the triangle Biedermannsdorf—Kalksburg—Vösendorf (headquarters) where General Beaumont lay ill that night with fever and hemorrhage contracted as a result of the hardships of the march through the Styrian Alps, and much to his bitter disappointment was forced to remain there and to relinquish the command of his division to General Boyer of the 1st brigade.* By order of Marshal Davout the advanced-guard was disbanded and General Heudelet returned to the command of his brigade taking with him the 108th of the line and the 1st chasseurs (Montbrun)†. Established in the very suburbs of Vienna, which some of his troops entered next day, Davout's long and arduous march across the mountains was at an end. The energy, skill and judgment shown had effectually annihilated Merveldt and practically eliminated him as a factor of any importance from the campaign. Few men without the stern determination of this Marshal could have accomplished such a result under similar difficulties or with such quick despatch; a capital instance of the rigid discipline enforced among his troops and the strict probity demanded by Davout who, if he never spared others, was no less exacting upon himself, occurred during this march and is too characteristic of him to be omitted. The Marshal had observed the brilliant Montbrun charging at the head of his regiment (the 1st hussars) and directing with unusual skill and self-possession the movements of the advanced-guard during the fighting before Mariazell, and had formed a high regard for his soldierly talents. He was accordingly very much provoked when his aide-de-camp, Captain Trobriand, handed him a letter from a princess whose estates the troops had traversed complaining that the officer commanding his vanguard had levied upon her a contribution of several thousands of francs and relying upon Davout whose reputation for justness had preceded him to punish the culprit. Upon receiving this complaint the aide-de-camp warned Colonel Montbrun that in an hour it would be in the Marshal's hands, so that he was fully prepared when summoned to Davout's headquarters. In the presence of all the generals of the corps the Marshal administered a severe reprimand and ordered a complete restitution by Montbrun of the entire amount of the levy, adding, "If I had two men like you

*Journal des Marches de la 3e division de Dragons.

†Compare "Vie militaire du Lieutenant-Général Comte Priant," p. 96.

in my army corps I should have one of them shot as an example!" Montbrun readily recognized the praise contained in this thinly-veiled threat, and with the greatest *aplomb* flatly denied the truth of the act attributed to him, but the accusation had nevertheless been made in a formal manner and Montbrun would have found himself in a very unenviable predicament had not the major of the regiment hastened to demonstrate the extent of his devotion to his colonel by announcing that the blame rested, not on Montbrun, but upon himself alone. The entire affair was hushed up by feigning to believe him and by subjecting him to several days' arrest, but a salutary lesson had been administered and neither Montbrun nor anyone else in Davout's corps dared to raise any further contributions until the end of the campaign.*

It is unnecessary to discuss here in detail the various movements of the other corps; suffice to say that the Guard advanced from St. Poelten to Purkersdorf (thirty-one miles) thereby passing the divisions of Legrand and Vandamme which were joined that night near Siegnardskirchen by Marshal Soult and the cavalry of the Fourth Corps from Göttweig and Mautern, followed by the 1st division (Saint-Hilaire) to Herzogenburg. In the rear of Soult the First Corps remained in its former positions and Marshal Bernadotte got ready to cross the left bank, while farther down the river Marshal Mortier began to transport his troops back over the Danube but, having at his disposal only twenty boats belonging to the flotilla under Captain Lostange and an insufficient number of boatmen, he was able to put Dupont's division alone on the left bank that day, and although the operation was continued throughout the 14th and the night of the 15th-16th it was not until 10 A. M. on the 16th that Gazan and Dumonceau were got across the river.

We do not purpose to follow the details of the busy and anxious day spent by Napoleon. During the morning General Lemarois reached St. Poelten and gave a full account of the position and condition of Mortier's corps, and when a report was received from Marshal Soult the Emperor decided that Bernadotte and Mortier constituted a sufficient body to force a crossing and keep the Russians harassed until Murat had blocked their retreat from the east. His plan was therefore outlined to Bernadotte† and Mortier, the flotilla was placed at

*Chenier, "Vie du Maréchal Davout," 149-150, and Thoumas, "Les Grands Cavaliers," I, pp. 130-131.

†Berthier, No. 387, pp. 273-274, and Napoleon, Corresp., No. 9474, 11, pp. 396-397.

their disposition, and Saint-Hilaire was ordered to leave Mautern for Vienna.* The 22nd Bulletin issued† Napoleon set out for Purkersdorf, but at Sieghardskirchen he was met by a deputation which had been sent by the various Viennese bodies to present to him the keys of the Austrian capital and to surrender the city to him in the name of their sovereign. Shortly after reaching Purkersdorf General Bertrand was announced, and when this efficient and faithful officer delivered Murat's report of the capture of the bridge at Vienna and gave him a detailed account of the manner in which this success had been achieved, Napoleon's delight knew no bounds.‡ The possession of this strategically invaluable crossing permitted him to utilize the "interior lines", as he had so effectively done in 1796 and 1797, and from his centralized position to operate at will against either Kutusoff or the Archdukes coming up from Italy. The incalculable advantage thus gained set his mind at rest for the remainder of the campaign, for the Emperor then felt assured that he could readily prevent the junction of the Allies and could successively defeat them in detail. His foresight had long before grasped all these advantages, and when the assurance came that his fond hopes had been realized in full it is small wonder that he was delighted. After dictating instructions to Marmont,¶ Davout and Mortier,§ Napoleon, "in transports of joy," then hastened on, almost alone, to Schoenbrunn where he betook himself to the imperial palace of the Holy Roman Emperors.** The first conqueror to set foot within the capital of the Austrian Empire for more than 500 years, he alone had realized the dream of the brilliant and audacious Villars—a dream in which the more practical Vauban had shared but which they both had ultimately become convinced was merely a fictitious chimera impossible of fulfillment.†† But the greatest general of all ages had a strange knack of turning the dreams of others into realities for himself—he who was the most fanciful dreamer of them all. Not this once alone, but again four years later did he gain possession of Vienna and occupy this picturesque château, with its extensive

*Berthier, Nos. 388, 389 and 390, pp. 275-276.

†Napoleon, *Corresp.*, No. 9476, II, pp. 399-401.

‡Dumas, XIV, p. 30; de Ségur, I, p. 432; Rovigo, I, p. 46.

¶Napoleon, *Corresp.*, No. 9475, II, pp. 398-399.

§Berthier, Nos. 391 and 392, pp. 276-277.

**De Ségur, I, p. 232.

††Dumas, XIV, p. 224, 4th Note, "On the conquest of the Tyrol and the junction of the two French armies of Germany and Italy."

gardens and walks, bordered by statues and by splendid trees and hedges trimmed square and box-like in the style of Le Nôtre, and its columned gloriollette perched up against the sky; but little did he dream that destiny should decree that his own son, the future King of Rome, should spend so many hours in this outlook gazing yearningly over the gray city, the blue river and the distant Wiener-Wald back toward France while he remained a helpless prisoner until his death (July 22d, 1832) in this Imperial dungeon from which his mighty father had twice humbled the proud Hapsburgs. "*Tempora mutantur et nos in illis mutamur*" and nowhere in history in the truth of that proverb better exemplified than in the treatment meted out to the unfortunate "eaglet" by the affectionate but calculating old grandfather and the implacable Metternich in revenge for their utter impotency in the presence of the living Napoleon. But the "Eagle Emperor" beat out his life chained to a lonely rock in the Atlantic "a thousand miles from anywhere," and the sins of the mighty father against Austria were visited upon the son who resembled him only in the greatness of the name he bore.

During the course of the evening the Emperor sent off de Ségur to carry the order to Marmont and was made fully acquainted with the details of the capture of the bridge through the two reports from Murat. Napoleon had never before been in Vienna and his delight, like his anger that was often manifested by extreme impatience which required an outlet in physical action, caused him to leave Schoenbrunn about midnight and to ride rapidly through the city accompanied by some of his staff. At the "Tabor bridge" he was met by Murat who had been informed of his coming and his congratulations, which were quite as hearty and enthusiastic as his reprimand had been severe, at once restored the Prince to his customary exuberant spirits. Together they proceeded across the "Spitz bridge" and at 2 o'clock the Emperor made the rounds of the outposts for the purpose of learning the exact positions of his troops and of ascertaining whether the outpost duty was being properly performed. Orders were given to hasten the advance of Murat and Lannes in the direction of Znaim for the purpose of intercepting the Russians retreating from Krems, and Count Gyulai, who had been left at Purkersdorf and who had set out from that town shortly after the Emperor's departure for Schoenbrunn in order to rejoin Francis at Brünn, was dumb-

founded to find Napoleon at the very front of his army warming himself before a bivouac fire in the cold gray of the dawn and intently watching the march of his troops toward Moravia where they were to suffer so many hardships and where so many brave men were destined to die that even the soft-sounding name of that province gave rise among the soldiers to a sinister play on the word (*mort-à-vie*).^{*} Shortly after the day broke the Emperor returned to Schoenbrunn, stopping for a short while only in Vienna whose inhabitants were greatly surprised to see him enter the city by the Danube gate.

On the 15th Murat and Lannes reached Ober-Hollabrunn, attacked and captured 100 of Kutusoff's train wagons, but the wily Russian, finding that his exhausted troops were compelled in order to gain the road to Znaim to move along the arc of a circle while the French advanced along the chord, resorted to a subterfuge to extricate his imperilled army; he therefore asked to surrender and sent General Baron Wintzingerode, one of the Tsar's aides-de-camp, to arrange the terms with Murat who readily fell into the trap laid for him. Wintzingerode and Belliard arranged an armistice by virtue of which Murat agreed to suspend his advance and the Russians to evacuate the Austrian dominions but both armies were to remain stationary until the compact had been ratified by Napoleon. In transmitting the agreement to the Emperor, Murat wrote :

"Sire—I thought that I ought to consent to this capitulation since I consider it as the preliminaries of peace which I know is the object of your desires (and) because I was not ready and because this army would have escaped me during the night.† * * *"

Murat's aide-de-camp reached Schoenbrunn shortly before 8 A. M. on the 16th but Napoleon immediately comprehended the plot and vented his righteous indignation upon Murat who was ordered to "break the armistice on the spot and march against the enemy."[‡] During the time consumed in sending the agreement to Schoenbrunn and the arrival of General Lemarois at Ober-Hollabrunn at 3 P. M. with the Emperor's reprimand, Kutusoff had continued his retreat through Znaim to Lechwitz, covered by Prince Bagration who was left at Schönggrabern with about 6000 troops to be sacrificed for the safety of the bulk of the army. At 4 o'clock Murat, Lannes and Soult

^{*}Memoirs of Baron Thiébauld, vol. II, p. 141.

[†]Murat to Napoleon, Ober-Hollabrunn, November 15th.

[‡]Napoleon, *Corresp.*, No. 9497, II, pp. 415-416.

attacked Bagration who made a splendid resistance against overwhelming numbers but by 10 p.m. was almost annihilated. Napoleon reached Ober-Hollabrunn that same night and hastened the pursuit with feverish activity, but, although a large number of prisoners were captured and although the French cavalry reached Brünn, the capital of Moravia, on the 19th, Kutusoff made good his escape and near Olmütz united with the army under Buxhoevden and the Austrians under Liechtenstein. Except for a few insignificant engagements there were no active movements from the 20th until the 27th when the Allies began their ill-timed advance from Olmütz in five columns. On the following day they came into contact with the French army in front of Wischau and Austerlitz, and on the 29th the Grand Army fell back to a position along the Goldbach, which had been carefully reconnoitered by Napoleon, who on the 21st had warned the officers accompanying him to "look at this thoroughly; study this ground, for within a few days this will be your battlefield."* Urgent orders were sent for all the troops within the theatre of operations to concentrate in front of Brünn and on December 2nd was fought the celebrated battle of Austerlitz, the most decisive battle of modern times† which inaugurated a new era in tactics. The result was the practical annihilation of the Allies, who lost enormously and were pursued until the 6th, when an armistice put an end to hostilities. Alexander withdrew his demoralized forces to Russia, leaving his ally in the lurch, and the Treaty of Pressburg (December 27, 1805) mulcted Francis of 28,000 square miles of territory and 3,000,000 subjects.

We can only speculate what might have been the result of this masterful campaign in Moravia, which was the logical sequence of the long march down the Danube, had the Austrians held the "Tabor bridge" as they did in 1809 instead of falling an easy prey to the audacity of Murat, Lannes and Bertrand.

*Dumas, XIV, p. 65; de Ségur, I, p. 230; Rovigo, II, p. 51; and Napoleon's notes to Kutusoff's official report which was published in the Court Gazette, St. Petersburg, February 20th (March 4th), 1806.

†"I have fought thirty battles like this one, but I have never seen one in which the victory was so decided and the destinies so little balanced." Napoleon, *Mémoires*.

THE TEACHING OF MILITARY HYGIENE.

BY BRIG.-GEN. ALFRED A. WOODHULL, U. S. A. (Retired).



AS long as the army retains a receptive mind we may hope for true progress. That we are still willing to learn, there is happy evidence in the official doubts that are arising in relation to the equivalence of a sharpened cleaning-rod with a good bayonet, and in certain other retrogressions from "advanced" positions. The reports that are drifting across the sea of the practical sanitary work in the Japanese Army show that the claims of theorists are not futile, and that there is such a science as military hygiene and such an art as applied sanitation. If we are not again to be engulfed in the sloughs that Camp Thomas, Camp Alger and the lines before Santiago represent, misfortunes whose memories are worse than that of Valley Forge, because at Valley Forge poverty and anxiety were unavoidable allies of cold and disease, we must carry out, as well as speculate upon, these essentials. Military hygiene has been practiced in a rule-of-thumb and imperfect way for a long time, and the failure to teach it effectively to those directly interested, except at one station, has been clearly shown in Captain Traub's recent essay. But the teaching at that station appears to be so practical, so directly applicable to actual or probable conditions, that this opportunity is used to invite attention to it. For a study of some of the questions set in the last examination papers at the Infantry and Cavalry School at Fort Leavenworth should show the service at large not only what is being done there, but what should be done wherever officers are under instruction.

In order to practice sanitation, those who command troops must understand why some ways are right and others are not, and they must learn to avail themselves of one class and to discard the other; and especially to appreciate that the subject is not a mere jumble of disconnected facts. It is well enough not to bother an enlisted man, or a second lieutenant for that matter if he should not be curious, as to why a soldier steps out with his left foot, so long as he does it; but the lieutenant, if not the company cook, should understand the reason for im-

mersing beef in boiling water and presently reducing the temperature, and the captain, if not the first sergeant, precisely why in a camp of position the tents should be changed to alternate sites at frequent intervals. That is to say, it is for the officers to know what to do and why it should be done. It is sufficient for the men to obey, although for them also to appreciate the reasons would be better. It is because the Leavenworth questions put the matter concretely that attention is invited to them. They do not call for a quantity of unrelated truths, still less for a mechanical exercise like the multiplication table, or an effort of memory such as the campaigns of Marlborough would involve. They simply assume a condition that may happen at any time with active troops, and ask what are you going to do? And that is the essence of true teaching for a practical subject. No one interested in the welfare of the army can read these questions carefully without realizing that the knowledge they imply must be acquired somehow; and there are few officers who will not admit that, if they have learned such lessons at all, some of them have been gained through mortifying experience, often at the expense of those officially dependent upon them.

"As constructing quartermaster what would you have to consider from a hygienic standpoint in the selection of the site of a post, including character of soil, air, moisture, area; what in the construction of barracks, including materials, plan, size, foundation? With reference to barracks * * * discuss the following subjects: ventilation; dangers to health from inadequate ventilation; disposal of products of expiration and combustion; air and floor space; fresh air required, and how obtained."

There are plenty of object lessons in timber and masonry to demonstrate what should not be done. I have served in garrison where in permanent stone structures forty-two men lived in a squad-room forty feet square by ten feet high. Had the company been larger, the additional men would have been quartered in the same space—there was no other, it was the quarters for the company, great or small. There would have been floor-space enough had the bunks been properly arranged, but these were two-story double affairs set along the walls. (In a similar just vacated room a troop had lived with three-tiered bunks.) The air-space per man was about 380 feet, and

sixty men would have received 266 cubic feet. The presumed ventilation was by means of three trap-doors, each two by three feet, opening into a loft which communicated with the outer air by a series of apertures under the eaves of one front. These trap-doors were under the control of the men, and in cold weather were entirely or partly closed by them. A simple form of ventilating shaft, easy to introduce, which should have improved the conditions, was not approved by the post quartermaster and therefore nothing could be done. This particular error is not likely to be repeated, but the principles governing air-space and ventilation have frequently been violated since then and it is possible that they may be in the future. And company commanders wonder why their men have sore throats, which means tonsillitis. Nor is consumption altogether unknown.

"You are commanding a camp of mobilization in a warm, limestone region of the United States, rock being near the surface. The ground is well wooded and usually is dry, but severe rainstorms are frequent. There is ample water-supply and food, tentage, clothing and medical supplies are adequate. Prepare a memorandum covering the sanitary arrangements required to safeguard the health of the camp, and state the sanitary precautions which should be taken to maintain the command at the maximum of health.

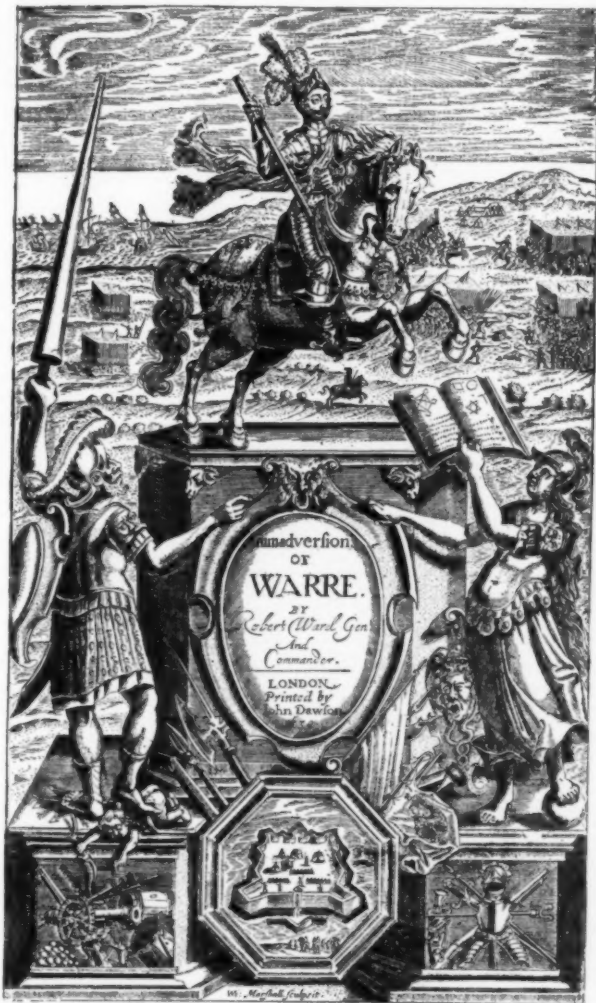
"A division of raw troops has been in this camp for six weeks. The usual contagious diseases, mumps and measles, exist and the command is extensively infected with typhoid fever. The division commander requires of you a sanitary inspection of the camp. Set forth, as if they actually existed, such sanitary defects as are liable to be found under the above conditions and state what means and methods should, in your opinion, be applied to correct them."

The hypothetical conditions very closely approach those at Chickamauga. If the regimental, brigade and division commanders had been drilled in this kind of exercise would Camp Thomas have acquired its unfortunate reputation? Would one regiment, for example, have been allowed to remain in a camp whose site was lower than its own sinks, so that it received their contents by overflow after heavy rains? Would the want of proper general police in another have made it almost impossible to walk in the vicinity without one's feet becoming polluted? The officers responsible for such conditions simply did not know

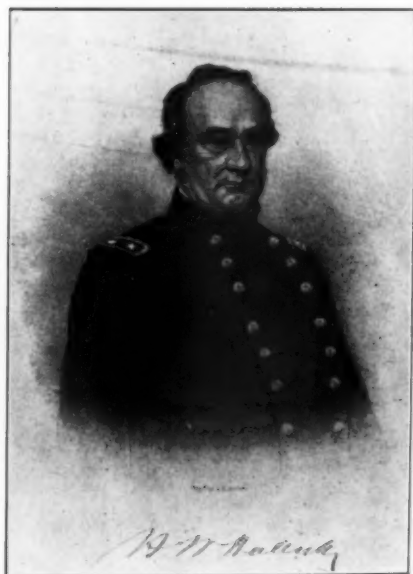
what sanitary sins they were committing, for it is incredible that they would have subjected their men to the resulting disabilities. The first of these, with an average mean strength of 1004, had 338 cases that were probably typhoid fever; the second, with a mean strength of 1015, had 270 probable cases of that disease. These are not exceptional instances, and the record of that great camp shows pretty nearly every possible violation of sanitation, partly by the ignorance of those directly concerned and partly because demonstrable and probable errors were not corrected when brought to the notice of competent authority.

It cannot be necessary to quote the whole paper. The examples given show its scope and manner. What it is desired to impress is that the principles of sanitation should be taught as those of a living subject, taught so that practical deductions may easily be made. When taught in that way it is necessarily an interesting and a profitable study for those concerned with the men by whose continued vigor alone military service is rendered.





Historical Miscellany.



HENRY WAGER HALLECK,
GENERAL-IN-CHIEF U. S. ARMY.
1862-1864.

TYPES AND TRADITIONS OF THE OLD ARMY.

II. GENERAL HALLECK—A MEMOIR.

BY GENERAL JAMES GRANT WILSON, U. S. V.

IN the year 1634, the patriots John Pym, John Hampden and Oliver Cromwell, aboard a fleet of eight small ships on the Thames, and at Yarmouth, the Rev. John Twings and Joan, his wife, of "St. Margaret's, Suffolk," were "forbidden passage," to New England. Soon after, this clergyman was settled at Hingham in Norfolk County, adjoining Suffolk, about one hundred miles northeast of London. Several years later the Rev. Mr. Twings, with twelve heads of families, fled from civil and ecclesiastical oppression in England, and landed at New Haven, Connecticut. There in October, 1640, Twings gathered his church anew, under the auspices of the Rev. John Davenport and Theophilus Eaton, governor of the New Haven Colony, which had been planted two years earlier under a branching oak—a virtual theocracy, the Bible being their code of laws, civil and ecclesiastical. In the same autumn the clergyman and his company settled at Southold on the northeastern shore of Long Island. When the ship sailed in the harbor of what is now known as Peconic Bay, the passengers, numbering about sixty, were afraid to land for fear of the Indians; but Peter Hallock or Halleck, a bold and handsome man of great strength, stepped ashore first, so the place was called "Hallock's Neck," and the beach extending from it "Hallock's Beach," by which names they are still known. Near the ancient Hallock homestead is the Mattituck burial-ground, where may be seen the graves of General Halleck's great, great and great grandfather, Peter Jr. and Major Peter, whose eldest son fell as commander of an armed vessel in the war of the Revolution, before the British ship surrendered. The general's grandfather, Jabez, born in the Southold homestead, moved in 1799 to Westerville, Oneida County, New York, where he died September 17, 1863, in his one hundred and third year. His son, Joseph, served in the second war with England with the rank of lieutenant, married a daughter of Henry Wager of Utica, was for thirty years a magistrate of Oneida County, and died June 22, 1857. He was the father of Henry Wager Halleck who, with the possible exception of his kinsman, Fitz-Greene Halleck, among the earliest American poets of the nineteenth century,* became the most distinguished member of the family. The

*The General felt much pride in the poet and his productions. From San Francisco he sent in 1868, a liberal subscription to his monument at Guilford, Conn., and three years later, he wrote from Louisville, Ky., where he was then in command: "Accept my sincere thanks for your

son was born at Westernville, January 9, 1815, receiving the rudiments of his education at the Hudson New York Academy, to which he had been sent by his grandfather Wager, one of the electors of Thomas Jefferson, by whom he was adopted, the boy having run away from home because he did not like plowing fields and other farm labors which his father required of him, and determined to acquire an education. The only record of Halleck's youth that we have met with—except a few family letters—is to be found in communications sent from West Point and Washington, to Theodore Miller, one of his schoolmates at the Hudson Academy with whom he corresponded for several years, and who, as his nearest friend, went to New York to see him off when the young officer sailed for California in 1846.* Young Halleck entered the junior class of Union College, Schenectady, September, 1854, remaining during the college year. He was one of five students, who in that year won the maximum mark in all their studies and also for attendance and conduct. A college official writes under date September 3, 1902: "I cannot tell where he spent 1835-6, perhaps at some other college. However, Halleck received his degree of A.B. in July, 1837, and his name appeared in our catalogue as with the class of 1837. His guardian was David Wager, and his residence Utica, N. Y. He was elected a member of the Phi Peta Kappa Society. Whether this occurred at the time of his graduation or later as an honor, I do not know. General Halleck received the degree of LL.D. from Union College at the commencement of 1862."

Having received an appointment as a cadet at the United States Military Academy from Beardsley, then a member of Congress representing the Oneida County district, Halleck entered that institution July 1, 1835. He was very quiet and studious; was soon recognized as likely to be graduated among the five honor men, became first sergeant, and later captain, of Company "C." His friend and brother-in-law, Gen. Schuyler Hamilton, writing in September, 1902, says: "Halleck was my roommate at West Point for two years, and he was very kind to me. We never had any disagreements. He had few intimate friends, but they were of the best." When the class of 1839 was graduated, in July, Halleck stood number three, those above him being the gallant Gen. Isaac I. Stevens, of Massachusetts, killed in the battle of Chantilly, September 1, 1862, and Robers Q. Butler, of Virginia, Principal Assistant Professor of Engineering at the Acad-

delightful biography of my poet-kinsman, which Mrs. Halleck and I have read with unflagging interest. Should you carry out your pleasant prospect of erecting a bronze statue to him in Central Park, I shall expect to be among the contributors, and also to be present with my wife at its unveiling as you suggest. * * * Alas! how many of our army friends have passed away since our first meeting at Pittsburg Landing."

*Miller studied law and practiced in Hudson, later becoming a judge of the Court of Appeals of New York, from which position he retired in 1886. He died in Hudson in 1895, having survived Halleck twenty-three years.

emy, who died at sea December 3, 1843. Among his other thirty-two classmates, of whom there is now no survivor, were Generals Canby, Ord and Ricketts, prominent commanders in the armies of the North during the Civil War. Gen. A. L. Mills, superintendent of the Academy, has favored me with the following record of the general-in-chief's career at West Point:

HENRY WAGER HALLECK was admitted July 1, 1835; graduated July 1, 1839. He was promoted second lieutenant, Corps of Engineers, and during his cadetship his standing in the classes was:

<i>1st Year, June, 1836, 4th Class.</i>		
Mathematics	3	} Class of 57.
French	9	
Conduct	17 (out of 216)	
General Merit	4	
<i>2d Year, June, 1837, 3d Class.</i>		
Mathematics	4	} Class of 39.
French	12	
Drawing	12	
Conduct	15 (out of 211)	
General Merit	5—was a corporal.	
<i>3d Year, June, 1838, 2d Class.</i>		
Natural and Experimental Philosophy	3 (out of 218)	} Class of 33
Chemistry	2	
Drawing	11	
Conduct	1	
General Merit	3 was a first sergeant.	
<i>4th Year, June, 1839, 1st Class.</i>		
Civil and Military Engineering	3	} Class of 32.
Ethics	3	
Infantry Tactics	4	
Artillery	4	
Chemistry, Mineralogy and Geology	4	
Conduct	2 (out of 231)	
General Merit	3	

Halleck was an Assistant Professor of Chemistry during his 1st-class year and after his graduation he was Assistant Professor of Engineering from July 6, 1839, to June 28, 1840.

The most successful students at the United States Military Academy are not infrequently outstripped in later life by their slower and less showy comrades. What was the West Point standing of many of our most illustrious soldiers of the Civil War, several of whom may safely be included among the great commanders of the nineteenth century? Grant was graduated number twenty-one in a class of thirty-nine, of whom Samuel G. French is the only survivor; Sherman number six among forty-two graduates; Sheridan number thirty-four in a class of fifty-two; the noble Virginian, Thomas, number twelve

*In determining standing in "conduct," the Corps of Cadets was considered as a whole, and each student was given his number in order of merit irrespective of class.

among forty-two classmates; Meade, hero of the decisive battle of the war, number nineteen in a class of fifty-six; heroic Hooker number twenty-nine among fifty comrades; "Stonewall" Jackson number seventeen; Sedgwick, twenty-four in a company of fifty; Longstreet, of Georgia, sixty in a class of sixty-two; Pickett, of Virginia, at the foot of his class; and handsome Hancock number eighteen among twenty-five graduates. From these examples, that might be indefinitely extended among almost four thousand cadets graduated from the academy during its century of existence, it will be seen that most of those mentioned who gained renown on many a doubtful day approximated more closely to the foot than to the head of their classes. To that *beau sabreur*, General Custer, is credited the assertion that it acquired more ability to graduate at the foot of the class, like himself, without being kicked out, than at the head. Of course, it has occasionally happened that the honor men like Halleck and McClellan, of the armies of the North, and the Confederate leaders, Joseph E. Johnston and Robert E. Lee, attained to high rank and renown, but more generally good fortune in the field has favored the less brilliant cadets of the Military Academy.

In July, 1839, Halleck was commissioned second lieutenant in the Corps of Engineers. His recognized ability and skill as an instructor while a cadet led to his being appointed Assistant Professor of Engineering at the academy. A year later he became assistant to the Board of Engineers at Washington, where he prepared an elaborate work on "Bitumen: Its Varieties, Properties and Uses," which embodied all that was then known of the application of asphalt to military structures. To his friend, Miller, he writes from the Capital in the winter of 1840: "Our party is routed horse and foot; there is scarcely enough left of us for a corporal's guard! My own feelings have not been as warmly enlisted in this political campaign as probably they would have been had not my position in the army precluded my taking any part in this partizan warfare. Nevertheless, I deeply regret the change of administration, both on account of my political opinions and the loss of many friends here who must soon leave. * * * With the society here I am most pleased. We have had several delightful supper parties recently, to which twenty-five or thirty are invited. Last week I attended one at Mrs. James K. Paulding's, wife of the Secretary of the Navy, which was very pleasant. We assemble about nine o'clock, chat, dance and partake of refreshments, until one or two o'clock. Late hours are now kept in Washington."

Halleck was ordered to New York in July, 1844, and in October, he writes to Miller from Fort Wood, New York Harbor. (See *fac simile*, Appendix A.)

Halleck was employed at Fort Wood, and other fortifications of

New York Harbor for five years, except during the summer of 1845, while on a tour of examination of public works in Europe.

From Paris he writes to his mother, January 28, 1844. "I am far away from home and friends, but under the eye of the same good Providence that guides and directs us all. May he grant us the happiness soon to meet again. I am very anxious to see you, and am impatient to finish my business here and return to the United States. Had I remained at my work in New York I should not perhaps have been able to see you any sooner than I shall now, but my being so far from you makes the time seem longer than it would under other circumstances. I have now been in France about a month and expect to remain a few weeks longer, and then visit Italy. I shall return here in about a month and sail for home in season to arrive in New York during April. Thus far my time has been most profitably spent in military fortifications and places of historical interest. Paris, where I am at present, is the capital of France, and among the world's largest cities. In beauty, it stands first of all. It contains about thirty thousand houses, some of which are extremely elegant. I was in the palace of the Tuileries a fortnight ago, and was presented to the King and Queen. They are both fine looking and advanced in years. The King conversed with me in English, which he speaks very well, but the Queen talked French, so that I was obliged to use the same language, which I had fortunately learned at West Point. One of the most interesting sights to be seen in Paris is the flower market. The climate is so mild that they can be cultivated in winter without much difficulty, and enormous quantities are brought to market by the poor, to sell to the rich people of Paris. I have seen more than a thousand pots of most beautiful flowers offered for sale at the same time."

During Halleck's absence he was promoted to a first lieutenantcy, and soon after his return to the United States, the Lowell Institute of Boston, attracted by his able reports on "Coast Defense" printed by the Government, invited him to deliver a course of twelve lectures on the Science of War.

These Lieutenant Halleck published in 1846, in a volume including an introductory chapter on the "Justifiableness of War," entitled "Elements of Military Art and Science." A second edition with much new matter relating to the Mexican and Crimean Wars appeared early in 1861. This admirable work met with a wide circulation among the volunteer officers of the armies of the North who took part in the Civil War.

At the beginning of the Mexican War Halleck was ordered to California, and sailed with Captain Tompkins's artillery command, in the transport *Lexington*, for the Pacific Coast, arriving at Monterey after a voyage of seven months. During this time he translated

Baron Tomini's "*Vie Politique et Militaire de Napoleon*," which, in 1864, was published in four octavo volumes accompanied with an atlas. No other English translation of this valuable work has appeared, nor is any other likely to be published. After partially fortifying Monterey, the lieutenant was employed in various civil and military affairs, acting as Secretary of State under the military government of Generals Mason and Riley, and accompanying several expeditions as military engineer. For these and many other meritorious services Halleck was brevetted captain, in May, 1847.

After the accession of California a substantial government became necessary, and a convention of delegates was called by the military governor to meet at Monterey to frame a State constitution. This convention, after a session of six weeks, agreed upon a constitution, which was submitted to and adopted by the people of the new commonwealth, and by act of Congress, September 9, 1850, California was admitted to the Union and another star was added to our flag. As the master spirit of Governor Riley's military government it was the young officer of engineers who was chiefly instrumental in initiating the movement for State government, and who, as a member of the committee chosen to draft the constitution, was substantially the author of it. Halleck continued as aide-de-camp on General Riley's staff, was Engineer and Inspector of Light Houses, and later a member of the Board of Engineers for Fortifications on the Pacific Coast. In July, 1853, he became captain of engineers, and in August of the year following Halleck resigned from the army.

Before resigning his commission Captain Halleck had declined the position of Professor of Engineering in the Lawrence Scientific School of Harvard University, which was proffered to him, and had mastered the profession of law, and been admitted a member of a prominent San Francisco firm. He now devoted himself to the practice of law, and also to the duties of director-general of the New Almaden quicksilver mine, a position to which he had been appointed in 1850. In 1855 he was elected president of the Pacific and Atlantic Railroad between San Francisco and San José and five years later became major-general of the State militia. Notwithstanding these many duties, Halleck found time to prepare "*A Collection of Mining Laws of Spain and Mexico*" (1859) and a work on "*International Law, or Rules Regulating the Intercourse of States in Peace and War*" (1861). This valuable volume was passed through numerous editions. Among Americans who have written on the "*Law of Nations*," such as Kent, Story, Wheaton, Wharton, Woolsey, Lawrence, Lieber and Dana, Henry W. Halleck occupies an honorable place. These scholastic representatives of our country are second to none in their successful efforts to enlarge and improve the principles of international law.

The following recollections of Halleck from the pen of Henry B. Whipple may very properly find a place in this brief biography. The bishop writes:

My cousin, General Halleck, I have known intimately from boyhood. He was a man of great intellectual ability, and few men have had a more perfect knowledge of the science of war. At his graduation from West Point he was made Assistant Professor of Engineering, and was detailed to build fortifications on Bedloe's Island, New York. While he was second lieutenant, General Scott asked his opinion in reference to seacoast defenses, and was so impressed by the young officer's views that he requested Thomas H. Benton, of the United States Senate, to offer a resolution asking Lieutenant Halleck to give the Military Committee his opinion on such defenses. He was sent to California to take charge of engineering on that coast. * * * * * Senator Forsythe, of Georgia, an eminent jurist, had advised Halleck to devote his leisure time to reading law, saying that the day would come when it would be useful. A law firm in San Francisco, Peachy and Billings, offered him copartnership with the understanding that, as his duties as a military officer had made him familiar with Spanish land grants, he should be the consulting member of the firm. He accepted the offer, purchasing a civilian suit of clothes at a cost of five hundred dollars. A few days later a client called to consult about a land grant. Halleck wrote out his opinion and asked his partners what he should charge for it, and they said five hundred dollars. This was the beginning of his success. Colonel Morris of the army wrote to General Riley congratulating him upon his wise organization of a stable government on the Pacific Coast. He replied to Morris; "You give me too much credit—that youngster, Halleck, has furnished the brains for my work."*

The study and practice of law was never irksome to Halleck, but a pursuit that he enjoyed as a strong man who delights to run a race *solatium et decus*—the more difficult the race, the greater the delight derived from its mastery. The preparation of his work on International Law, which to many if not most lawyers engaged in active practice would have been drudgery, was to General Halleck a labor of love. To him legal work was what poetry was to Coleridge—its own exceeding great reward. One of his California contemporaries assured me that few, if any, members of the San Francisco bar in the pursuit of their profession ever combined sounder mental powers with greater application and industry. From the law and judicious investment, Halleck acquired a handsome fortune before re-entering the army in 1861, when, although at the head of the most important law firm in California, and living in affluence, he promptly offered his sword and service to the National Government.†

**Lights and Shadows of a Long Episcopate*, being Reminiscences and Recollections of Henry B. Whipple, Bishop of Minnesota, 1899. p. 102.

†See letter to Reverdy Johnson App. B.

By the advice of Gen. Winfield Scott, Halleck was appointed by President Lincoln, major-general in the Regular Army, his commission being dated August 19, 1861. Scott fully appreciated his high qualifications as a commander, and an allusion in one of the old hero's letters, setting forth McClellan's disregard for his authority, created the impression that it was his wish that Halleck should succeed him as general-in-chief. Gen. Schuyler Hamilton, then on Scott's staff, writes under date of August 21, 1902. "When McClellan was spending about five millions per week, Mr. Chase, Secretary of the Treasury, said he could not furnish such enormous sums, with nothing to show for them in the way of military achievement. General Scott begged Mr. Chase to be patient. General Halleck was daily expected from California, and as Scott said, he understood the value of money and finance, and would relieve McClellan." Three months later he was appointed to the command of the Department of Missouri, embracing six Western States and a portion of Kentucky. "Around him," writes Cullum, a member of his staff, "was a chaos of insubordination, inefficiency and speculation, requiring the prompt, energetic and ceaseless exercise of his iron will, military knowledge and administrative powers. The scattered forces of his command were a medley of almost every nationality, with the organization of each and the excellence of none." The successor of General Frémont, in entering upon the arduous duties of his important position, received the following communication from the commanding general of the United States armies:

HEADQUARTERS OF THE ARMY,

Washington, D. C., November 11, 1861.

Maj.-Gen. H. W. HALLECK, U. S. A.,

Commanding Department of Missouri:

GENERAL: In assigning you to the command of the Department of the Missouri, it is probably unnecessary for me to state that I have intrusted to you a duty which requires the utmost tact and decision. You have not merely the ordinary duties of a military commander to perform, but the far more difficult task of reducing chaos to order, of changing probably the majority of the personnel of the staff of the department, and of reducing to a point of economy, consistent with the interests and necessities of the State, a system of reckless expenditure and fraud, perhaps unheard of before in the history of the world.

You will find in your department many general and staff-officers holding illegal commissions and appointments not recognized or approved by the President or Secretary of War. You will please at once inform these gentlemen of the nullity of their appointment, and see that no pay or allowances are issued to them until such time as commissions may be authorized by the President or Secretary of War.

If any of them give the slightest trouble you will at once arrest them and send them, under guard, out of the limits of your department, informing them that if they return they will be placed in close

confinement. You will please examine into the legality of the organization of the troops serving in the department. When you find any illegal, unusual or improper organizations you will give to the officers and men an opportunity to enter the legal military establishment under general laws and orders from the War Department, reporting in full to these headquarters any officer or organization that may decline.

You will please cause competent and reliable staff-officers to examine all existing contracts immediately, and suspend all payments upon them until you receive the report in each case. Where there is the slightest doubt as to the propriety of the contract, you will be good enough to refer the matter with full explanation to these headquarters, stating in each case what would be a fair compensation for the services or materials rendered under the contract. Discontinue at once the reception of material or services under any doubtful contract. Arrest and bring to prompt trial all officers who have in any way violated their duty to the Government. In regard to the political conduct of affairs, you will please labor to impress upon the inhabitants of Missouri and the adjacent States that we are fighting solely for the integrity of the Union, to uphold the power of our National Government, and to restore to the nation the blessings of peace and good order.

With respect to military operations, it is probable, from the best information in my possession, that the interests of the Government will be best served by fortifying and holding in considerable strength Rolla, Sedalia and other interior points, keeping strong patrols constantly moving from the terminal stations, and concentrating the mass of the troops on or near the Mississippi, prepared for such ulterior operations as the public interests may demand.

I would be glad to have you make as soon as possible a personal inspection of all the important points in your department, and report the result to me. I cannot too strongly impress upon you the absolute necessity of keeping me constantly advised of the strength, condition and location of your troops, together with all facts that will enable me to maintain that general direction of the armies of the United States which it is my purpose to exercise. I trust to you to maintain thorough organization, discipline and economy throughout your department. Please inform me as soon as possible of everything relating to the gunboats now in process of construction, as well as those completed.

The militia force authorized to be raised by the State of Missouri for its defense will be under your orders.

I am, general, etc.,

GEO. B. McCLELLAN,
Major-General, Commanding U. S. Army.

Missouri and Kentucky were at that period practically but a border screen to cover the operations of the seceding South. Even Halleck's headquarters in St. Louis "fortified at exorbitant cost," continues Cullum, "and in violation of all true engineering principles, neither protected the city from insurrection within nor from besiegers without. No sooner had General Halleck assumed command than fraudulent contracts were annulled; useless stipendiaries were dismissed; a colossal staff hierarchy with more title than brains or military capacity were disbanded; composite organizations

were pruned to simple uniformity; the construction of fantastic fortifications were suspended, and in a few weeks order reigned in Missouri." Halleck's power was immediately exercised against those who under the mask of citizens aided and abetted secession.

Bands of refugees stripped of everything by the enemy arrived daily in St. Louis seeking food and shelter. This portion of the inhabitants believed to be in sympathy with the South and in secret communication with its leaders, were compelled to feed and care for the refugees—an extreme measure which the shameful persecution to which the loyal victims had been subjected, alone could justify. This action was taken after a declaration of martial law by General Halleck. From Price he received a letter in January, 1862, asking: "Do you intend to regard men whom I have specially dispatched to destroy roads, burn bridges, tear up culverts, etc., as amenable to an enemy's court-martial, or will you have them tried as usual by the proper authorities, according to the statutes of the State?" Halleck, who had placed the State under martial law chiefly with a view of dealing with this very class of offenders clearly stated his authority and his determination to severely punish all such miscreants.

He wrote to Price as follows:

No orders of yours can save from punishment, spies, marauders, robbers, incendiaries, guerrilla bands, etc., who violate the laws of war. We cannot give immunity to crime. But let us fully understand each other on this point. If you send armed forces wearing the garb of soldiers and duly enrolled as legitimate belligerents to destroy railroads, bridges, etc., as a military act, we shall kill them, if possible in open warfare, or if we capture them, we shall treat them as prisoners of war. But it is well understood that you have sent numbers of your adherents, in the garb of peaceful citizens and under false pretences, through our lines into northern Missouri, to rob and destroy the property of Union men and to burn and destroy railroad bridges, they endangering the lives of thousands, and this, too, without any military necessity or possible military advantage. Moreover, peaceful citizens of Missouri, working quietly on their farms, have been instigated by your emissaries to take up arms as insurgents, and to rob and plunder and to commit arson and murder. They do not even act under the garb of soldiers, but under false pretences and in the guise of peaceful citizens. You will not certainly pretend that men guilty of such crimes, although specially "appointed and instructed by you," are entitled to the rights and immunity of ordinary prisoners of war.

Writing in December, 1861, to John C. Hamilton, his friend, Horace Binney, of Philadelphia, remarks:

Halleck, I believe, is your son-in-law. I like his course both first and last. That is to say, his washing the slave matter from his hands at first was good, and his readiness to execute orders was good afterward. I detest the whole work of confiscation, and would do nothing with slavery, except as a war measure under the commander-in-chief.

Slavery is dead for all the harm it can do us. Let us deal with it with some regard to the Union proprieties at least, and to the slaves themselves. The end, if it comes, and when it comes, will arrange matters on the proper footing.*

The following is an extract from an undated letter written by General Halleck to his wife, presumably from St. Louis, about the close of 1861:

So long as such resolutions stick to the Union I shall be very glad to have them, but the moment they descend to party politics I will have nothing to do with them.

I have just received a private letter from General McClellan about the attempts of the Abolitionists to create jealousies between us. It is very frank and at the same time very complimentary. I do not think our enemies will succeed in creating any discord between us.

In writing to President Lincoln, January 6, 1862, he says:

I am satisfied that the authorities at Washington do not appreciate the difficulties with which we have to contend here. The operations of Lowe, Jennison, and others have so enraged the people of Missouri, that it is estimated that there is a majority of 80,000 against the Government. We are virtually in an enemy's country. Price and others have a considerable army in the Southeast, against which I am operating with all my available force. This city and most of the middle and northern counties are insurrectionary—burning bridges, destroying telegraph lines, etc.—and can be kept down only by the presence of troops. A large portion of the foreign troops organized by General Frémont are unreliable; indeed many of them are already mutinous. They have been tampered with by politicians, and made to believe if they get up a mutiny and demand Frémont's return the Government will be forced to restore him to duty here. It is believed that some high officers are in the plot. I have already been obliged to disarm several of these organizations and I am daily expecting more serious outbreaks. Another grave difficulty is the want of proper general officers to command the troops and enforce order and discipline, and especially to protect public property from robbery and plunder. Some of the brigadier-generals assigned to this department are entirely ignorant of their duties and unfit for any command. I assure you, Mr. President, it is very difficult to accomplish much with such means. I am in the condition of a carpenter who is required to build a bridge with a dull ax, a broken saw and rotten timber. It is true that I have some very good green timber, which will answer the purpose as soon as I can get it into shape and season it a little.

General Halleck's letter from which the above lines are taken bears the President's pathetic endorsement: "It is exceedingly discouraging. As everywhere else nothing can be done."

General Frémont's management of the slavery question had been too radical and had been disapproved by the Government: Halleck's now became too conservative, and his famous Order No. 3 brought upon

*Life of Horace Binney, p. 346. Philadelphia, 1903.

him the antislavery element of the North. He was denounced in Congress and by the newspapers, and the violence of public condemnation threatened to seriously impair his military usefulness. He was placed on the defensive, and issued the following statement: "The object of this order is to prevent any person in the army from acting in the capacity of negro catcher or negro stealer. The relation between the slave and his master, or pretended master, is not a matter to be determined by the military officers, except in the single case decided by the civil authorities. One object in keeping fugitive slaves out of our camp is to keep clear of all such questions. Order No. 3 does not apply to the authorized private servants of officers nor the negroes employed by proper authority in the camps. It applies only to fugitive slaves. The prohibition to admit them within our lines does not prevent the exercise of all proper offices of humanity, in giving them food and clothing outside, where such offices are necessary to prevent suffering."

I could not, without far exceeding the space at my disposal for this brief biography, trace all the complex military movements occurring in Halleck's department, nor is it necessary for they can be seen in the general's dispatches and other documents contained in this volume. It is sufficient to state that in three months of his sway in the West Gen. Sterling Price was driven out of Missouri and that the first great success of the North was won by General Grant, in the capture of Forts Henry and Donelson, aided by Commodore Foote's gunboats. On February 16th Grant telegraphed to Halleck: "We have taken Fort Donelson and from 12,000 to 15,000 prisoners, including Generals Buckner and Bushrod R. Johnson; also about 20,000 stands of arms, forty-eight pieces of artillery, seventeen heavy guns, from 2000 to 4000 horses, and large quantities of commissary stores." After this important success Halleck reminded the Government of his desire for more extended control, telegraphing the day after the great victory: "Make Buell, Grant and Pope major-generals of volunteers, and give me command in the West. I ask this in return for Forts Henry and Donelson." The decisive battle of Pea Ridge was won by General Curtis early in March, and that was followed by General Pope's capture of New Madrid and Island No. 10, which, by the ingenious device of Gen. Schuyler Hamilton's cut-off canal, was taken in reverse, and this strong barrier of the Mississippi River removed by the combined forces of the army and navy. These victories were succeeded by the severe conflict at Shiloh in which the Northern army sustained heavy losses on the first day, but achieved a great victory on the second, when Buell's and Grant's armies were united.

To give greater unity to military operation in the West, Halleck's

command was extended by the President in accordance with the following order:

Telegraph the following order to Major-General Halleck, at Saint Louis, Mo.:

PRESIDENT'S WAR ORDER,	}	EXECUTIVE MANSION,
No. 3		Washington, March 11, 1862.

Major-General McClellan having personally taken the field at the head of the Army of the Potomac, until otherwise ordered he is relieved from the command of the other military departments, he retaining command of the Department of the Potomac.

Ordered further, That the two departments now under the respective commands of Generals Halleck and Hunter, together with so much of that under General Buell as lies west of a north and south line indefinitely drawn through Knoxville, Tenn., be consolidated and designated the Department of the Mississippi, and that until otherwise ordered Major-General Halleck have command of said department.

Ordered also, That the country west of the Department of the Potomac and east of the Department of the Mississippi be a military department, to be called the Mountain Department, and that the same be commanded by Major-General Fremont. That all the commanders of departments, after the receipt of this order by them respectively, report severally and directly to the Secretary of War, and that prompt, full and frequent reports will be expected of all and each of them.

ABRAHAM LINCOLN.

By order of the Secretary of War:

L. THOMAS.
Adjutant-General.

Halleck having decided to take the field arrived at Pittsburg Landing on April 11th, on which day the writer first met him, and where, within a week, he was named by the soldiers, "Old Brains." As I remember, after two score years, he impressed me as being "a very castle of a man," to borrow Irving's description of Fenimore Cooper, to whom he bore a strong physical resemblance. Halleck was then in the prime of life, possessing robust health and great mental vigor, about five feet nine inches tall, and weighing perhaps one hundred and seventy or eighty pounds. He was carefully dressed in a new uniform, wearing his sword, and carrying himself erect, with a distant and somewhat austere manner, presenting, as he walked down the steamer's gangplank, altogether a striking contrast to General Grant, who was then under a cloud. Halleck immediately reorganized his large command, increased by the arrival, on the 22d, of General Pope with 20,000 well-organized troops. His special field orders of April 28th named the Army of the Tennessee, the First Army Corps, commanded by Grant, and constituting the right wing; the Army of the Ohio, the Second Army Corps, commanded by Buell, and constituting the center; and the Army of the Mississippi, the Third Army Corps, commanded by Pope, and forming the left wing. Pre-eminently

cautious by nature, he was the more cautious now because assured of ultimate success in capturing Corinth, against which he was moving. Always averse to the unnecessary shedding of blood, instead of advancing boldly against Beauregard, as Grant or Sherman would have done, without delay, Halleck, with double his numbers, first fortified his position on the left bank of the Tennessee River, and then moved upon the enemy "with pick and shovel," as Sherman said, instead of marching forward promptly with his 100,000 bayonets. Corinth was captured on May 29th, but Beauregard and his army escaped, and were not pursued with much vigor or success. For this achievement which was the triumph of a strategist, not the success of an energetic general, the Secretary of War telegraphed: "Your glorious dispatch has just been received, and I have sent it in to every State. The whole land will soon ring with applause at the achievement of your gallant army and its able and victorious commander."

The disastrous failures of McClellan and Pope in Virginia, during the early summer of 1862, both alarmed and disheartened the President. They had both been beaten and it appeared impossible to overcome the prejudices and enmities existing between the defeated commanders. McClellan was clearly incompetent, and Lincoln in his perplexity decided that it was imperative that he should have a military adviser, and so he turned to General Halleck who had been recommended by the old hero of two wars, well named Winfield Scott, then overcome by the infirmities of age. Halleck had achieved success by directing the movements leading to the victories of Fort Donelson, Island No. 10, and capture of Corinth, was known as a man of strong intellectual powers, a master of the theory of military art, as well as the author of several valuable volumes on tactics and international law. Declining the President's invitation to Washington for a conference in the unfortunate military condition existing in the East, he promptly obeyed his orders of July 11th, arriving in the Capital on the 23d. Halleck went unwillingly. Sherman had warned him against Washington as a place filled with unscrupulous politicians, and greedy, self-seeking scoundrels, and a year later wrote to Grant: "Do not stay in Washington. Halleck is better qualified than you to stand the buffets of intrigue and policy. Come out to the West; take to yourself the whole Mississippi Valley; let us make it dead sure, and I tell you the Atlantic Slope and Pacific shores will follow its destiny as sure as the limbs of a tree live or die with the main trunk! * * * For God's sake and for your country's sake come out of Washington! I foretold to General Halleck before he left Corinth, the inevitable result to him, and now I expect you to come out West."

[TO BE CONTINUED.]

APPENDIX.

[A] GENERAL HALLECK TO THEODORE MILLER.

(Fac-Simile)

Fort Wood, N. York Harbor,
October 8th 1841

My dear Miller,

I have this day read, via Washington, Your very kind letter of the 2^d inst. I owe you many apologies for my continued silence, but will not now trouble you with the details.

I left Washington last July for the purpose of making a hurried survey and examination of this Fort, and returned again in a few weeks for the purpose of making plans preparatory to its repair. A recent appropriation of \$50,000 for this purpose has, within a few days, brought me back to this place for the purpose of superintending these public works, and in all probability I shall be kept here some year or two. As you have doubtless noticed this Fort from N. York city, and perhaps visited it I will not trouble you with a description. It is in a very important position for the defence of the city, and is now so completely derelict as to be entirely defenceless. It was built by contract, in great haste, at the commencement of the last war, and its masonry is now all crumbling to the ground. A fair proof of the ruinous

policy, our government pursues of postponing the construction of their principal defenses till war is actually forced upon us and then hastily building miserable trouble-down concerns. Millions of money have in this way been lost; and should we now be involved in war, millions more must be expended where thousands would have been sufficient, if they had been appropriated a few years ago and properly applied. ^A may some day give you my views on this subject more at length.

Your remarks respecting my matrimonial if agree with you that the President is a miserable wishywashy fellow unworthy the confidence of any party. His two cases are most consummate apes, and excite the contempt of most that know them. The Democrats should take up Forsyth or Buchanan. The old Federalism of the latter may weigh against him, but I cannot conceive what objections can be made to the former! He certainly was the ablest member of both Jackson's & Van Buren's cabinets. Compare his letters to Fox, with those of Webster - Auer infinitely superior!

I am my dear friend,
most truly and affectionately Yours,
Wm. W. Hallen

[B] GENERAL HALLECK TO REVERDY JOHNSON

San Francisco, April 30, 1861.

MY DEAR BISHOP:* Your letter of March 30th is duly received, and I am most happy to learn that your health is so much improved.

We have much later news by the pony express—to the 18th inst.—giving full accounts of the attack and surrender of Fort Sumter, the President's proclamation, and the general arming, both North and South. Civil war seems now to be inevitable. This news has caused a deep feeling of regret here, and will have a very depressing effect upon property and business.

Whatever Virginia may have done or may do, I really hope that Maryland may not secede. If she goes there must result an immediate contest for the Capital. However, if no slave States remain in the Union, the North will become ultra antislavery, and I fear, in the course of the war will declare for emancipation and thus add the horrors of a servile to that of a civil war. But if Maryland should remain in the Union, slavery will still be recognized and protected under the Constitution, and the door be kept open for a compromise or reconstruction, if either should become possible. I, however, see very little hope of either till much of the bad blood of our present political leaders is drawn off by the sword and the cannon.

It is currently reported that a number of emissaries of Jeff. Davis have recently arrived here with overtures to prominent Southern men. Several officers of the army here have resigned, and it is supposed will take commissions in the Confederate Army. I do not anticipate much trouble here for the present, but still it may come much sooner than we think. Our Governor, Downey, stands firmly up to the mark as a Union man; but who may next change no one can tell. The commander of the Pacific Division, General Johnston, a relative by marriage I believe of Jeff. Davis, resigned some three weeks ago, but is to remain, it is said, for the present upon this coast, and it is asked, for what purpose? Time alone can answer.

Added to all these anticipated troubles we already have a squatter rebellion in three counties and a suspension of the authority of the courts. In all probability a militia force will be ordered out, and it is possible that I may have to put on the old uniform. So, you will see, we have our own troubles and anxieties here, although so far removed from the general seat of war. * * * * *

Yours most truly,

H. W. HALLECK.

[C] GENERAL HALLECK TO BISHOP WHIPPLE.

St. Louis, Nov. 29, 1861.

MY DEAR COUSIN: Yours of November 12th is just received. I have little or no time for private correspondence, nevertheless I cannot let the letter of my old friend and cousin pass unnoticed. * * * * * Affairs in this department are in a most deplorable condition—whether made so purposely or not I will not say. If I can ever get any order out of this chaos I shall be satisfied. Of course I shall be abused by the extreme abolitionists and the pro-slavery secessionists. But it will not drive me from the course of

*Mr. Johnson's son writes: "My father spent several months in California on professional business before the opening of the Civil War, but why General Halleck addresses him as 'Bishop,' I cannot conceive."

policy which I have determined on and shall pursue until I am removed, which very likely, will soon take place. I am resolved to be the instrument of no political faction, having no political aspirations myself. I shall do my duty faithfully, as I understand it, let the consequences be what they may. * * * * * Good-bye, dear cousin, write me as often as you can.

Yours very truly,

H. W. HALLECK.

[D] GENERAL HALLECK TO MRS. HALLECK.

St. Louis, Dec. 14, 1861.

MY DEAR WIFE: It is Saturday night and pretty late at that. My week's work is ended and a hard one it has been. To-morrow I shall rest, at least a part of the time. Schuyler (Hamilton), Cullum and the other members of the staff, are pretty well worked out, but I feel in better working order than when I first came here. I have often felt that my powers of labor had never been fully tested, but now I have as much as I can possibly do. The task before me is immense, but I feel that I can accomplish it. I believe I can say it without vanity that I have talent for command and administration. At least I have seen no one here who can accomplish half so much in twenty-four hours as I do. I never go to bed leaving anything of the day's business undone. Nearly all back business is cleaned up, and everything is getting straightened out and put in its place. This is very encouraging and I begin to see my way through the chaos and corruption which Fremont left behind him. Of course all his satellites abuse me in the newspapers, but this does not annoy me in the least.

I enclose a letter just received from Mrs. Sherman. How do you suppose I answered it? I could not say her husband was *not* crazy, for certainly he has acted insane. Not wishing to hurt her feelings by telling her what I thought, and being unwilling to say what I did not believe, I treated the whole matter as a joke, and wrote her that I would willingly take all the newspapers said against General Sherman, if he would take all they said against me, for I was certain to gain by the exchange!

In January, 1862, Lincoln wrote to Halleck: "For my own views, I have not offered, and do not now offer, them as orders, and while I am glad to have them respectfully considered, I would blame you to follow them contrary to your own judgment, unless I should put them in the form of orders. With this preliminary, I state my general idea of this war to be that we have the greater numbers and the enemy has the greater facility of concentrating forces upon points of collision; that we must fail unless we can find some way of making our advantage an overmatch for his; and that this can only be done by menacing him with superior forces at different points, at the same time, so that we can safely attack one or both if he makes no change; and if he weakens one to strengthen the other, forbear to attack the strengthened one, but seize and hold the weakened one, gaining so much."

[E] GENERAL HALLECK TO MRS. HALLECK.
HEADQUARTERS, DEPARTMENT OF THE MISSOURI,
St. Louis, March 5, 1862.

MY DEAR WIFE: The fall of Columbus, the great "Gibraltar of the West," and the taking of New Madrid have followed the consequences of the victory of Fort Donelson, just as Bowling Green and Nashville were abandoned to General Buell in consequence of the same strategic movements. The newspapers give the credit of these things to Stanton, McClellan and Buell, but fortunately I have the recorded evidence that they even failed to approve them after I had planned them. Of course I have been very, very busy, not only in carrying out these plans, but in forming new ones. My army is getting into something like shape, and the soldiers are in excellent spirits.
* * * * *

I understand that Mackall and Gilmer were both with General Johnston in his flight from Bowling Green and Nashville. They are now, I believe, at Chattanooga, near the line of Georgia.

[F] GENERAL HALLECK TO THE ADJUTANT-GENERAL.
HEADQUARTERS, DEPARTMENT OF THE MISSISSIPPI,
St. Louis, March 15, 1862.

BRIGADIER-GENERAL LORENZO THOMAS,
Adjutant-General of the Army, Washington.

GENERAL: In accordance with your instructions of the 15th inst. I report that General Grant and several officers of high rank in the command, immediately after the battle of Fort Donelson, went to Nashville without my authority or knowledge.

I am satisfied, however, from investigation, that General Grant did this from good intentions, and from a desire to subserve the public interests. Not having advice of General Buell's movements, and learning that General Buell had ordered Smith's division of his (Grant's) command to Nashville, he deemed his duty to go there in person. During the absence of General Grant, and a part of his general officers, numerous irregularities are said to have occurred at Fort Donelson. These were in violation of the orders issued by General Grant before his departure, and probably, under the circumstances, were unavoidable.

General Grant has made the proper explanations and has been directed to resume his command in the field. As he acted from a praiseworthy, although mistaken, zeal for the public service in going to Nashville and leaving his command, I respectfully recommend that no further notice be taken of it.

There never has been any want of military subordination on the part of General Grant, and his failure to make return of his forces has been explained as resulting partly from the failure of colonels of regiments to report to him on their arrival, and partly from an interruption of telegraphic communications. All these irregularities have now been remedied.

Very respectfully, your obedient servant,
H. W. HALLECK,
Major-General.

[G]

GENERAL HALLECK TO MRS. HALLECK.

Pittsburg Landing, Tenn., April 14, 1862.

MY DEAR WIFE: I left St. Louis on Wednesday last and arrived on Friday evening. The officers seemed very glad to see me, as according to all accounts and my own observations, this army is undisciplined and very much disorganized, the officers being utterly incapable of maintaining order. I have been very hard at work for the last three days endeavoring to straighten things out, and hope to succeed in time. The battles of the 6th and 7th were terrible slaughters, but our troops have suffered much less than the enemy. Gen. Albert S. Johnston, Mrs. Hepburn's brother-in-law, was killed on the field and is buried near-by. Gilmer was on his staff, but I hear nothing of him.

I have been living on a steamer since I arrived, but shall go into camp with the soldiers to-morrow. The Landing has only a few lone houses which are occupied by army stores, and I shall live in a tent. Living out in this way is not very comfortable in rainy weather, but it always agrees with my health, and I rather like it, notwithstanding the inconveniences. Moreover, it will have a good effect upon the soldiers to camp out with them.

[H]

Corinth, July 5, 1862.

I have been so much troubled and annoyed within the last few days that I have had no heart to write to you. The first news I received of General McClellan's reverses before Richmond was a telegraphic order from the Secretary of War to send him twenty-five thousand men from here. To obey this peremptory order was to ruin all I had gained here in the Southwest, and I felt utterly broken-hearted. My first impulse was to resign and go home to California. But this my duty to my country forbade. I have finally received the order made discretionary with me and I can now breathe more freely, but I am afraid that McClellan and Pope will work upon the mind of the President till he gives them a part of my army. If so, it will be almost fatal.

I am beginning to lose much of my faith in McClellan's judgment. That he is selfish, I have had abundant proofs in the course he has pursued with this army of the West, or at least my part of it. I hope, however, that everything will yet be right, and that these ridiculous jealousies will subside.

[I]

Corinth, July 13, 1862.

The events of the last two weeks have been truly momentous. The failure of McClellan before Richmond has taken us all aback and greatly complicated the events of the war. Two messengers were sent to me, one from the President and one from McClellan, inviting me to go to Washington and the President and Secretary of War both telegraphed me to the same effect, but I declined the invitation, knowing that the object was to involve me in the quarrel between Stanton and McClellan. One of the messengers said that I was the only man in the United States who could reconcile the present difficulties. I replied that if that was the case I was probably the only person in the United States who would have nothing to do with these Cabinet quarrels, and that I would not go to Washington if I could help it! When lo and behold, the President issues a mandate

making me general-in-chief, and ordering me to Washington to assume command of McClellan and all the other generals of the army! In fact, putting me in General Scott's place. This is certainly a very high compliment, but I doubt very much whether I shall accept the promotion. I fear it may bring me in conflict with McClellan's friends. Everybody who knows me, knows that I have uniformly supported him, and I do not wish to be placed in a false position. Nevertheless, I must obey my orders and shall start for Washington some time next week. * * * * *

[K]

Washington, July 28, 1862.

* * * * *

I returned here yesterday. General McClellan received me kindly, but our interview was from its nature necessarily somewhat embarrassing, especially as I was obliged to disagree with him as to the feasibility of his plans. It certainly was unpleasant to tell one who had been my superior in rank that his plans were wrong, but my duty to myself and the country compelled me to do so. If I had approved them I should have become responsible for them, and I could not in conscience do so. General McClellan is in many respects a most excellent and valuable man, but he does not understand strategy and should never plan a campaign. We can get along well together, if he is so disposed; but I fear that his friends have excited his jealousy and that he will be disposed to pitch into me. Very well. My hands are clean. When in command of the army no one did more than I did to sustain him, and in justice to me and to the country he ought now to sustain me. I hope he will, but I doubt it. He is surrounded by very weak advisers.

[L]

HEADQUARTERS OF THE ARMY,

Washington, Aug. 9, 1862.

* * * * *

I feel broken down every night with the heat, labor and responsibility, but am in good health. The President and Cabinet have thus far approved everything I have proposed. This is kind and complimentary, but it only increases my responsibility, for if any disaster happens they can say We did for you all you asked. The great difficulty now is to get the troops together in time. I have felt so uneasy for some days about General Pope's army that I could hardly sleep. I cannot get General McClellan to do what I wish. The President and Cabinet have lost all confidence in him and urge me to remove him from command. This is strictly *entres nous*. In other words they want me to do what they were afraid to attempt! I hope I may never be obliged to follow their advice in this matter.

[M]

HEADQUARTERS OF THE ARMY,

Washington, Aug. 13, 1862.

* * * * *

The victory of General Pope at Culpeper gives me breathing time and is of immense advantage. I am doing everything in my power to get the new troops into the field, and the sky here is cleared. But at the West everything since I left seems to go wrong. It is the strangest thing in the world to me that this war has developed so little talent in our generals. There is not a single one in the West fit for a great command. Probably it is because politics interfere so much with promotion.

The President and Secretary have thus far treated me as well as I could wish. Indeed, they seem willing to give me more power than I desire to exercise on some points. All seem to give me the credit of having put new energy into the government here. I certainly have tried very hard to do so. Matters just now are progressing very satisfactorily.

[N]

HEADQUARTERS OF THE ARMY,

Washington, Sept. 2, 1862.

* * * * *

I have scarcely slept for the last four nights and am almost worn out. * * * * * General McClellan is now with me and co-operating heartily. Pope has had six days of severe fighting in front of Alexandria and must probably fight again to-day. We are doing all in our power to secure Washington, and everybody now admits that if I had not brought McClellan's army here when I did, we should have been lost. As it is we have every hope.

[O]

HEADQUARTERS OF THE ARMY,

Washington, Sept. 5, 1862.

* * * * *

Yours of the third is just received. I hope and believe I have saved the capital from the terrible crisis brought upon us by the stupidity of others. I got McClellan's army here just in time—and barely that—to save us. Few can conceive the terrible anxiety I have had within the last month. I foresaw all that has occurred, but I feared to tell it to more than a few in strict confidence lest I should produce a general panic. Generals Cullum, Meigs, the Secretary of War, and a few of the members of my staff, were the only persons to whom I told what I considered our real danger—the capture of Washington. I think it is now past. I have been able to call on only a few of the wounded officers. I would like to go and see them as they pass through here, but it is impossible.

I hardly know myself how I am able to keep up amidst the excitement and labor of my office. The generals all around me are quarreling among themselves, while I am doing all in my power to conciliate and satisfy. It is sad to witness the selfishness of men at this time of sore trial. I have no ambition or hopes beyond my present position, and would resign that to-morrow if I could do so conscientiously. I want to go back to private life as soon as possible and never again to put my foot in Washington.

We are organizing a new army as rapidly as possible and hope to do better next time. Pope was not defeated, but he failed to defeat the enemy. He is, of course, in ill-humor with everybody, and very likely will pitch into me. I think, however, he will again be my friend in a few days.

[P]

HEADQUARTERS OF THE ARMY,

Washington, Sept. 9, 1862.

I am glad to hear that Charlie* is doing well and that his wounds are not likely to prove very serious. General Tower, whom you knew as major, is very severely wounded. When Daniel† went on with

*Charles Apthorp Hamilton, Lieutenant-Colonel, Seventh Wisconsin Infantry.

†Daniel, General Halleck's servant.

Charlie he thought of visiting you at Newport, as he was not in good health. I told him he could either do that or go home to Oswego for a week. He has not yet returned. Jackson* is still at home in Westernville, quite unwell, but hopes to very soon be able to return to Prime in the West.

I am greatly dissatisfied with the way things go here. There are so many cooks. They destroy the broth. I am tired and disgusted with this great political machine. It does not suit me at all.

[Q]

HEADQUARTERS OF THE ARMY,

Washington, Oct. 7, 1862.

Everything would now be satisfactory if I could only get General McClellan to move. He has now lain still *twenty days* since the battle of Antietam, and I cannot persuade him to advance an inch. It puts me out of all patience. * * * * *

*Andrew Jackson Halleck (the general's brother) Chief Clerk to Col. Frederick E. Prime U. S. Engineers.





CHIEF JOSEPH.

AN INCIDENT OF THE NEZ PERCE CAMPAIGN.

BY H. J. DAVIS, A FORMER SERGEANT 2ND CAVALRY.

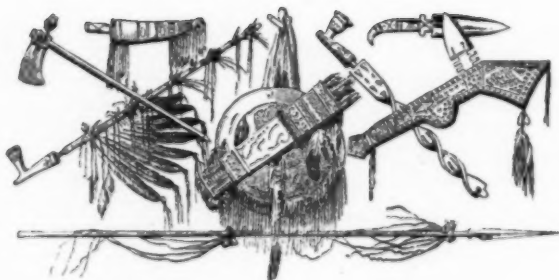
DURING the memorable campaign against the Nez Perce Indians, in the year 1877, there were many stirring incidents that have never been given to the public, and notably among these is the Camas Meadow fight of Capt. Randolph Norwood's Company L, of the 2nd Cavalry. The writer was a member of that company at the time, and will describe it as he saw it. In the early part of the summer we had assisted the 5th Infantry, under Col. Nelson A. Miles, in rounding up and capturing the remnant band of Cheyenne Sioux, under Lame Deer, and bringing them into the cantonment at the mouth of Tongue River. Shortly after arriving there, Gen. W. T. Sherman and staff, and the General's son, Thomas, came up the Yellowstone on a tour of inspection, and we were ordered to escort them to Fort Ellis, which was our home station. Arriving there, a portion of the company was detailed to accompany our distinguished visitors on a trip of sightseeing to the Yellowstone Park. They had scarcely departed when dispatches arrived telling of a disastrous engagement of Col. John Gibbon's troops with the Nez Percés at Big Hole Pass, something like one hundred and sixty miles away; saying he was in desperate circumstances and in danger of annihilation, and ordering us to hasten with all speed to his relief. Our company was depleted, by various details, to about fifty men, and with this force we started within the hour, which was already late in the day. Virginia City, sixty miles, was made on the night of the following day; the next ninety miles were made without halt, except for coffee for the men and short rests for the horses. It was a tedious ride; all day, all night and all day again, the steady plod, plod of the horses, broken at night by the occasional, smothered exclamation or oath of

some trooper who had dropped asleep and nearly fallen from his horse. On the second night out from Virginia City we went into camp late, and moved early the following morning, and had not been on the road long before we met a wagon and travois train bringing wounded from the battle-field. They told us that they had been soundly whipped, with great loss, and that the Indians, unable to dislodge them, had, after a three days' siege, departed, taking a south-easterly course and following the main range of the Rocky Mountains. They would, without question, have killed or captured every man of Gibbon's force had not they been apprised of a large force of soldiers coming from the west. This was Gen. O. O. Howard's command, consisting of two companies of the 1st U. S. Cavalry, two or three batteries of the 4th U. S. Artillery and the 21st U. S. Infantry. The artillery was equipped as infantry. This force we joined, and then began a stern chase which proved to be the traditional long chase. Our course was the same as the Indians had taken. But with our heavier impedimenta the best we could do was to keep from fifteen to twenty miles behind them. We crossed to the south side of the main range, and for seven nights we slept booted and spurred. We were following the trail which, after crossing the mountains, led through a good grazing country, and from the numerous carcasses of cattle which lined the trail we knew the Indians were well sustained. An interesting fact, to those not acquainted with Indian ways, is that these dead steers were disemboweled and the bulk of the internal arrangements had disappeared, while the loins, rump, and, in fact, all choice parts, from a white man's point of view, had not been disturbed. The trail was easily followed, as it was from fifty to one hundred and fifty feet wide, and the vegetation was almost entirely obliterated by the tramping of their several hundred ponies and the dragging of scores of travois poles. At their halting places we found many fresh made graves, showing that their wounded list was rapidly growing smaller. We also noticed, at such resting spots, numbers of conical piles of pony droppings, evidently built by hand, which our scouts told us were constructed by the young bucks, and intended to show their contempt for us. When we struck Camas Creek, General Howard decided to give the men and horses a chance to rest, as our march had been arduous, and the Indians seemed about to strike for the headwaters of Snake River, and from there enter the then almost wholly unexplored Yellowstone Park. We camped on the east bank of Camas Creek, on open ground. Opposite, and above the camp, the creek was fringed with cottonwoods and alders, and below, the banks were clear and the stream flowed over a natural meadow to "The Sink," a few miles below, where it disappeared. The creek was literally alive with trout from twelve to twenty inches long, and offered the finest sport I have ever seen; and with only a small portion of the

men fishing, enough were taken to feed the entire command. In the immediate vicinity of that camp ground there is now a company, with a capital of \$200,000, engaged in raising trout for market, and they supply Ogden, Salt Lake City, and even San Francisco; the waters are ideal for the purpose. At night, guards were posted, and a picket post was established some five hundred yards upstream, near the creek and on a rocky knoll, and two at other points. The mule herd was turned loose to graze in the space between the camp and the principal picket post, mentioned above. Some of the men slept under the wagons and others pitched shelter tents; I chose the latter method, and with Private Monaghan for a "bunko" was soon in a state of "inocuous desuetude." Either our pickets fell asleep or the Indians were very astute, for during the dark half hour that generally precedes daylight, we were awakened by a disconcerting concert of demoniacal yells and a cracking of rifles, while the whizzing of bullets could be heard well overhead. Everyone was out in a minute, and all we could see was a magnified imitation of a swarm of fireflies flitting in the alders, as the rifles spoke; while the tramping of hundreds of hoofs added to the din. We had no sooner sent them a "Roland for their Oliver" than the fireflies ceased winking, and, except the noise we were making ourselves, nothing could be heard but receding hoofbeats and faint yells, as the enemy returned from whence they came, taking with them, as a souvenir, about one hundred and fifty mules, our pack-train. Our company horses had pulled one picket-pin, and had then milled 'round and 'round and twisted themselves into a grotesque puzzle. Orders came quickly, given for the three companies of cavalry to saddle, pursue and try to recapture the pack-train. One company of the 1st Cav. was to make a detour to the right and the other to the left, and our company was to follow the trail. The morning air was extremely chilly and crisp and the horses rank, so that what was an orderly gallop, at first, soon developed into a race. After half an hour of this we approached a ridge, which was the first roll of the foot-hills. The first ones to make the summit of the ridge suddenly stopped and then quickly returned to the foot; as the rest of us came up we soon learned that the Indians had made a stand just over the ridge. We dismounted, and the Number Fours, each holding four horses, being unable to fight, left about thirty-five of us to meet the Indians. Crawling to the top we saw a line of dismounted skirmishers, standing behind their ponies, on open ground and about a thousand yards away. We deployed along the ridge, and for twenty minutes or so exchanged shots with them with but little damage on either side, as the range was long for our Springfields and longer for their Winchesters. Lieutenant Benson of the 7th Infantry, who was attached to our company for the day, standing up for an instant, just at my side, received a bullet which entered at the hip-pocket and

went out at the other, having passed entirely through both buttocks; this, while we were facing the enemy, caused us to realize that we had no ordinary Indians to deal with, for while we had been frolicking with the skirmishers in front, Chief Joseph had engineered as neat a double flank movement as could be imagined, and we were exposed to a raking fire coming from right and left. The horses had been withdrawn, more than five hundred yards, to a clump of cottonwoods; and when we turned around there was no sight nor sign of them. For a brief period there was a panic, and then we heard the notes of a bugle blowing "Recall" from the cottonwood thicket. The race to that thicket was something never to be forgotten, for a cavalryman is not trained for a five hundred yard sprint; luck was with us, however, and no man was hit in that mad race for safety. I had a horse's nose-bag slung over my shoulder containing extra cartridges, and a bullet cut the strap and let it fall to the ground. A hero would have stopped, gone back and recovered that bag, but not I. We all reached the horses and found the place an admirable one for defence; it was a sort of basin, an acre or so in extent, with a rim high enough to protect our horses, and filled with young cottonwoods in full leaf. It was oval in shape, and we deployed in all directions around the rim. For two hours it was a sniping game and our casualties were eight. The Indians crawled very close, one shooting Harry Trevor in the back at about fifteen feet, as we knew by the moccasin tracks and empty shells found behind a rock after the engagement. Poor Trevor's wound was mortal as was that of Sam Glass, who was shot through the bladder; a bullet hit Sergeant Garland's cartridge-belt and drove two cartridges from it clean through his body; his wound never healed and he blew out his brains a few years later. Will Clark had his shoulder partly torn away by an explosive ball; Sergeant Wilkins, a head wound and Farrier Jones, a "busted" knee; a citizen attaché, a bullet through the foot, and the lieutenant, wounded as told above. This was the amount of damage done to us, and what we did to the Indians we never knew, as they retreated in good order taking their dead or injured with them, after they found they could not dislodge us. Three dead ponies and some pools of blood were all the records we found of their casualties. The real hero of the occasion was Serg. Hugh McCafferty, who climbed a cottonwood tree, and in short range of every Indian and only concealed by the foliage, kept us posted on their movements by passing the word to a man stationed under the tree. For this act he was given a certificate of merit and a medal, by Congress. It should have been mentioned that we recovered twenty mules that were dropped by the Indians about midway between the camp and battle-ground. The others were never retaken, but were worn out or died before the final surrender of the few survivors to Colonel Miles. We took up the trail the next day, after our wounded

had been started for the post, under escort. I could never understand how those two companies of the 1st Cavalry could have missed the Indians and gotten entirely out of touch with us, when we started together and we were fighting within half an hour and kept it up for nearly three hours. More could be told of our chase through forest and canyon, over mountains and across gorges, where wagons had to be let down almost perpendicular walls by hand, for two hundred feet. But that is another story.





LONGEING AND TRAINING AT OBSTACLES.

BY COUNT RAOUL DE GONTAUT-BIRON, FORMER RIDING-MASTER AT
SAUMUR.

*Translated for the Second Division, General Staff, United States Army,
by Captain CECIL STEWART, 4th U. S. Cavalry.*

PREFACE.

FRIENDS and former comrades of the army, allow me to present to you this work!

Of course I do not pretend to have invented longeing and training at obstacles. But I do make use of the longe in a manner different from that generally laid down; while the books and regulations consider longeing as quite fatiguing and recommend its use with moderation, I make use of it quite often during lessons relatively long, and nevertheless my horses experience scarcely any more fatigue than if they were traveling free on a straight track. As regards training at obstacles I make the same claims; everybody agrees in saying that it is advisable not to make horses jump more than once or twice a day, lest they be injured and made stubborn; now I daily jump them over a great number of obstacles without ever causing blemishes or obstinacy.

Those who shall do me the honor of reading these few pages should be able to ascertain that they are the result of attentive observation and experience already long. In spite of their numerous imperfections I have decided to publish them, yielding to kind entreaties. I hope also to be of service, and I affirm that in following the method laid down, the horseman will quickly experience great satisfaction. Shall I dare to say that my work has a little sanction

from the past? Yet I wish for it, on account of others and myself, that of the future.

Here is the order in which I treat of the numerous questions that my subject embraces:

PART FIRST.

Longeing.

Chapter I.—Benefit of longeing.

Chapter II.—Means of management which the horse trained on the longe should obey.

Chapter III.—Method of training on the longe.

PART SECOND.

Training at Obstacles.

Chapter I.—Benefit of training the horse at obstacles.

Chapter II.—What is meant by a good jumper.

Chapter III.—Analytical study of jump of the horses at large.

Chapter IV.—How the rider should behave during the jump.

Chapter V.—Hold of reins advised.

Chapter VI.—Study of the different methods of training at obstacles.

Chapter VII.—Outline of a method combining the advantages and avoiding the inconvenience of the other methods.

Chapter VIII.—Instruction of rider and manner of taking obstacles.

Chapter IX.—Different causes that prevent the horse from jumping.

Chapter X.—Horse too eager at the obstacle; causes and remedies.

Chapter XI.—Horse too sluggish at the obstacle; causes and remedies.

Chapter XII.—Use of the riding-whip.

I. LONGEING.

CHAPTER I.

BENEFIT OF LONGEING.

Longeing is of great benefit:

First.—In exercising a young horse.

Second.—In giving exercise to a horse, that for any reason cannot be ridden or harnessed.*

Third.—In suppling.

First.—*In exercising a young horse.*—Longeing is recognized as so beneficial, that all who have written on raising and training horses, recommend its use; nevertheless, the greater number of breeders make no use of it, since they are ignorant of the practical means of making this exercise of benefit to the animal and at the same time easy to impart.

The colt, before having acquired the strength necessary for being put to harness or under the saddle, should be longed so as early to develop his powers, to supple him and finally to familiarize him with man and to habituate him to his domination. Unfortunately this work, generally little understood, becomes so difficult in its application, that it is neglected when not absolutely necessary. Also in the customary run of things, only race-horses undergo it, there being no time to lose with them, since they should make their trials from the time they are two-year-olds, and consequently acquire the greatest development possible at that age.

*Of this kind are vicious animals that must be broken by work, always of such nature as never to be harmful to their sound state.

Second.—*In giving exercise to a horse, that for any reason cannot be ridden or harnessed.*—Under a great number of circumstances, longeing, if well understood, might be practically made use of for horses in service. For example, one has a hunter or racer that on account of an injury cannot be ridden; if the way of making him take his exercise on the longe is known, one can prevent, to a great extent, his losing condition, which would have been difficult, if led by hand he had been treated only to walks.

In stables, little watched over, it is not unusual to see horses remain five or six days running, without going out, and that to avoid cleaning the saddles, harness and carriages, which it would have been necessary to use in the daily airings.

How often we have seen grooms, some incapable of riding their masters' horses, others leaving them tied, during the worst season, at the doors of grog-shops, where they were taking distempers instead of outings for their health.

When one has not at the head of his stable a man loving a horse sufficiently to be entirely trusted in, it is indispensable to exercise a serious supervision, so as to remedy as much as possible the disadvantages of a lazy, incapable and negligent groom.

As to the exercise to be given outside of the days when the master needs his horses, longeing seems to me the easiest to supervise, it being understood that it can be given at a fixed time and place.

Temper as well as condition are the better for exercise regularly taken. It is not unusual to see people astonished that their horses, formerly so well behaved, have become skittish and even vicious. The sole cause of these fits of high spirits, that quite often degenerate into real vices, come from too prolonged rest.*

Persons owning horses hard to mount or that hump themselves up, during the first part of the ride, would do well to use the longe for some minutes; they would thus avoid the annoyances occasioned often by sensitive loins or too ardent temperament, which gives rise equally to accidents and diseases which make the veterinary's visits useful.

Third.—*In suppling.*—The colt, after having been put on the longe, with judicious limitations, will possess a suppleness and a certain habit of obedience, that will simplify his training, above all, if he is destined for the saddle.

Even in stables where the greatest confidence can be placed in the man charged with regulating the daily outings, putting the horses from time to time to this exercise must not be neglected; excellent schooling that keeps up in some the suppleness acquired and that causes it to be acquired by others. Suppleness merits more appreciation than it generally receives, for the horse in use enjoying this quality will not expend his strength uselessly, and consequently will tire less.†

*Each year, in cavalry regiments, there were designated to mount infantry officers, horses chosen always from the best behaved; yet, after some time, these horses were often sent back to the regiment as hard to manage and vicious. Too long rests were the sole causes of vices that disappeared generally when these animals were returned to the regular work of the squadrons.

†By chance I met a person in despair because his horse, when harnessed up, slipped every moment on the pavement, principally in turning, and contrary to what happened in the country, tired very quickly and sweated abundantly.

After having examined the way the horse handled himself in turning, I believed I had dis-

CHAPTER II.

MEANS OF MANAGEMENT WHICH THE HORSE TRAINED ON THE LONGE SHOULD OBEY.

A horse is accounted *trained* when the instructor handles him perfectly, in all senses, without the help of the assistant, whom he had to make use of in the first lessons.*

The trained horse ought to obey:

First.—The human voice (principally).

Second.—The indications transmitted to him by the cavesson.

Third.—The action of the long whip.

Fourth.—The combined action of these two means. When the horse answers to all these actions† he ought to work on the ring with scarcely more fatigue than if he were free on a straight track.

First.—*The human voice (principally).*—The voice is of great assistance in training horses; it is therefore necessary to adopt certain commands, which will be pronounced with a *settled intonation*, in order to obtain always the same results; for it is very important that at a breeder's, at a trainer's, in a squadron or in a regiment, the horses may be handled without distinction by all the men that make up the personnel.

We advise the following commands, because they are most generally employed:

A click of the tongue to move forward.

Steady! steady! to slacken the pace.

Whoa! to stop.

Come here! to make the horse come to the center.‡

The command, *Steady! Steady!* is pronounced in a mild tone, as if it were *stead-y-y, stead-y-y*, and allowing the voice to fall on the last syllable.

covered in him an extraordinary stiffness, which I mentioned to the owner, offering my services in applying what I believed to be the remedy.

I exercised this animal on the longe one hour daily, half an hour at a time, and three days were sufficient for me to remark such progress in suppleness that I began to be confident. A week after the horse did his work without slipping on the turns, and the abundant sweating, caused formerly by work for a few minutes, had almost entirely disappeared. The result will be far from surprising if one reflects that persons devoting themselves for the first time to the sport of skating, experience at first great difficulty in preserving their equilibrium and tire themselves excessively, because they lack suppleness, or do not understand how to use it, while these same persons, after more or less practice, succeed in standing with ease and scarcely any effort.

It is the same with the tight-rope dancer, the gymnast, etc.

When I ride a well-trained hack I keep him generally at the canter, and I wheel at this gait in the worst paved streets, and this to the great astonishment of persons who know not that my mount, being supple, runs no more risk of falling in wheeling at the gallop than a stiff horse wheeling at the trot.

Persons who follow the races at the small tracks in the environs of Paris have surely had the opportunity a thousand times to hear trainers or owners say that such and such a horse had no chance of coming in first, because he did not turn well. I am convinced that if these horses, often stiff as poker, had been supplied while young, they would take the turns better, at times very short in these small tracks, and would not find themselves out of the race.

*During the course of the second lesson the horse will have become docile, and the assistant consequently unnecessary.

†Generally two lessons of a half-hour, given in one day, are enough.

‡These last two commands are adopted by the cavalry-drill regulations, in the longeing.

The command, *Whoa!* is pronounced in a firmer tone than the preceding.

The command, *Come here!* is pronounced in the natural way, which needs no particular inflexion of the voice.

The commands should be pronounced loud enough by the instructor to be well understood by the horse, and low enough, however, not to bother other horses that were being trained on the same drill ground.

By this means one will arrive very quickly, and with scarcely any need of indications from the cavesson, or action of the whip, at habituating the horse to moving forward to both hands and at all gaits,* to passing from a fast to a slow gait, and conversely; then to pass from any gait to the halt; and finally to go to the center, whether marching or stopped short on the ring.† In the cavalry, great importance has recently been given to longeing; for following the precepts of the drill regulations, it is by this means that all horses should be trained for surmounting obstacles, and when a recruit experiences some apprehension in the first riding lessons, the instructor should make him mount a horse held on the longe, and drill him in the ring as long as necessary to give him confidence. So then if one would conform to the spirit of the regulations, not only all horses ought to be trained to this exercise, but it would imply even that they were in a state to obey almost solely the indications of the voice; because squadrons cannot provide for as many cavessons as would be necessary, given the considerable number of recruits to whom it would be of advantage to give confidence by this very quick means; the regulations prescribe then that a longe‡ be passed through the two rings of the snaffle, which here does duty for a cavesson. The training by voice then must be thorough enough to do away with the use of strength on the longe, either to slow or to stop short, in the case of the trooper losing his balance; for, if it were necessary to use the longe, the bit would inevitably wound the horse's lips,§ who would, on account of the wound, become hard to manage. This is why—the troop horse, being imperfectly trained, unable to be longed without serious danger to his mouth—it is found impossible to use a means as quick as practical in giving the recruit confidence.

Second.—*The indications transmitted to him by the cavesson.*—The cavesson serves to keep the horse on the track by horizontal oscillations of the longe; to keep him away from the center,|| to slacken his gait, to stop him short on the track, to punish him by shaking it more or less violently; then, the horse walking or halted on the track, to make him come to the center by the slightest pull of the instructor

*The cadenced gallop will not be obtainable in the first two lessons, the horse not having acquired sufficient suppleness to move at this gait on the ring.

†This observation is of importance only if the horse be destined for volting exercises.

‡A forage cord is used.

§The snaffle-bit, acting on the lips, parts more sensitive than the forehead, it takes much more judgment to handle a longe attached to a bit, than where the longe is fastened to an ordinary cavesson; again it will be found much better to fix the longe to the front ring of the stable halter nose-band.

|| It will be useful, when wishing to keep the horse from the center, to destroy by a click of the tongue or by the whip, the retrograde effect, produced by the oscillations of the longe.

on the longe; lastly, to make him change hands by executing a half-circle between the circumference and center of the ring.*

The horse should, while preserving his gait, keep without constraint on the track by aid of the longe,† which will be neither taut nor wavering. Moreover, he ought, without offering the least resistance, to narrow or widen the circle, according to whether the instructor takes or gives the longe.

The fault, quite common moreover, consisting in pulling on the longe, renders this exercise impracticable, because of the serious troubles resulting therefrom.‡ Such a manner of working makes the gaits irregular; further, the animal perturbed, struggling with energy against the force that in spite of him keeps him to the center,§ throws his haunches outward and needlessly tires himself.

On his side, the instructor, who should experience no fatigue, soon finds himself tired out.

Under these conditions it certainly is no mistake to consider this exercise as quite painful for the animal, and in fact it produces more than fatigue. But the true mistake consists in so giving it that, resembling more a series of struggles than an exercise always calmly taken, it gives rise to that unnecessary fatigue, whose inevitable consequence is to sour the temper instead of soothing it and to uncondition the animal instead of developing him.||

The use of the cavesson as a means of correction is of great benefit in training horses of all ages.

But it is important to know how to employ it and perfectly to understand its worth; for this instrument, useful in the hand that knows how, is harmful in that which is ignorant or that uses it under the influence of anger.

When it is desired to correct a horse by the cavesson, he is made to feel several light jerks on the forehead, produced by vertical oscillations of the longe; but, if it is desired to produce quite a violent jerk, the longe is drawn in with the right hand as far back as possible, the hand is also raised, carrying it first to the front, then backward, to execute rapidly and without slackening the longe, just what one does when it is a matter of throwing a stone hard. In this way, not only is a powerful jerk given by the cavesson on the forehead, but

*The horse, being at the trot, should still easily attain change of hands without change of gait; but the change of hands at the gallop would demand very long drilling to give the animal the suppleness necessary for easy execution of a change of foot.

†When longeing is given in a circular riding school, the longe, becoming unnecessary in keeping the horse on the track, serves but to regulate the gaits.

‡The cavalry horse, put on the longe with the snaffle for a cavesson, will not be long in having his mouth skinned if he pulls on the longe.

§The instructor, who with the object of inspiring confidence in the recruit should make use of a horse so badly trained to the longe, would increase apprehension instead of causing it to disappear.

||In places where race-horses are found, longeing should be perfectly applied on account of the value, often quite great, of the colts to which it is given. Now, it is precisely in those places that the trainers have the most difficulty in finding men having sufficient tact to give this exercise.

It suffices, to understand it all, to go some morning and see the heart-breaking sight that the Chantilly lawn offers at the training hour, where each horse is supposed to be given exercise in proportion to his strength and age. Thenceforth, you will not be any longer astonished to meet with so many race-horses with soured tempers, and bearing the marks of numerous blemishes, produced most often by the brutal use of the cavesson.

the longe adds yet to this commotion in striking lengthwise between the nostrils.*

Third.—*The action of the long whip.*—The long whip serves to carry the horse forward, to increase his gait, to keep him more or less away from the center, according as it is shown him more or less, and finally to punish him.

When the horse pulls on the longe, it is due almost always to the whip, which has been unnecessarily and unskilfully used, and which, by frightening the animal, disposes him to elude what holds him, or what amounts to the same thing, to pull on the longe; a very common fault and which makes longeing absolutely impracticable.

It is for this reason that we do not allow its use in the hands of the instructor, before the horse responds to the indications of the voice and cavesson†. Up to this time a riding-whip will suffice the instructor, either to make the horse go forward, or to keep him away from the center; as to the long whip, it will be of use in the sole case that the horse shows unwillingness to move forward; and then it will be held by the assistant, who will conform, as well as the instructor, to the following observations of which the aim is to avoid frightening the horse and his pulling on the longe, through his avoiding the holder of the whip.

The horse ought not to see or hear the whip.‡ He is to feel it only on the hindquarters.§ When it is to be used, it will be held, butt end in the hand, the large end passing out by the thumb, the lash dragging on the ground and following the horse (Fig. 1).



When you want to make the horse feel it, bring the thumb near the body and throw out the elbow more or less brusquely, as you wish to strike more or less hard. In this way, movements of the arm that might frighten the animal are avoided, and the action of the whip will be sufficient for all training purposes. It will be held, large end passing out by the little finger, when powerful action is desired, in case, for example, it is necessary to use it as a means of correction, which, moreover, I advise be done with extreme discretion, because, if frightened, the horse will very quickly get the bad habit of pulling on the longe and subsequently will with difficulty lose this fault

Nothing is easier than to correct the horse, who, during the exercise, always tends to narrow his circle by approaching the instructor; it is enough simply to show him the riding or long whip, or yet if necessary, to touch him with it on the shoulder or neck. The horse, exercising in a narrow ring,|| the whip handle if slipped forward in the hand will often suffice to keep him away from the center. You will thus avoid turning over the whip in order to put the butt end passing out by the little finger, which cannot be done without movements

*This last method, which differs little from that given by Count d'Aure, was taught us by Major Dutilh, head riding-master at the Cavalry School, who had consummate skill in handling the longe.

†At the end of the second lesson, and before dismissing the assistant, one might take the whip.

‡General L'Hotte, when in command of the Cavalry School, forbade fixing a lash to the long whip in order to prevent its being cracked.

§ Generally below the hocks.

||Farther on it will be seen that the ring ought always to be narrow in the first lessons.

of the arm, with consequent frightening of the animal and making him pull on the longe.*

Fourth.—*The combined action of these different means.*—When training a horse, the voice, cavesson and long whip should all be used together; for each of these means necessarily aiding or replacing one of the others, their combined action, according to need, can evidently but help and assure the horse's obedience.

CHAPTER III.

METHOD OF TRAINING ON THE LONGE.

To train a horse quickly, well and without useless fatigue for the man, that is the end in view.

This result is arrived at by using simultaneously voice, cavesson† and whip, and by not pulling the horse on a large circle at increased gaits until after having obtained from him sufficient obedience at the walk on a small circle.

To this end a longe is first used, that is let out for only about a meter‡; it will thus be easy to keep a horse at the walk and to prevent his frisking about. The longe must have no knots,§ so that it can glide easily through the hand, if desired; further, it must be light so as not to weary the horse when, trained, he exercises on the large circle.

The instructor will make sure that the cavesson is well adjusted under the cheeks, high enough not to interfere with breathing, and that the nose-band is drawn snug enough not to have too much play, which would make its action too violent and allow the cheek straps to mount up and injure the outside eye when exercising on the ring.

On account of the frequent changes of hand, the longe is fastened to the middle ring and not to the side of the cavesson.||

The instructor will begin by exercise to the left hand,¶ holding the longe in the left hand, and the riding-whip (lash to rear) in the right hand.**

He will have behind him an assistant, whose duty is to help him in the first lessons and to keep the slack to the longe coiled up, so that between him and the instructor the longe is neither taut nor loose enough to drag on the ground.

*I have said above that the horse ought not to hear the whip. There is, however, one case where that will be necessary: that is when once trained he is exercising on a ring so large that the lash cannot reach him. Then make him hear it from behind to increase the gait, and at the height of his head to keep him away from the center if he refuses to enlarge the circle at the mere sight of the whip.

†The colt should be accustomed to bear the cavesson by leaving it on him in the stable for several hours in succession and by leading him by the longe during several walks.

‡The instructor should look out for kicks with spirited or vicious horses and give them more or less longe.

§The use of the longe, kept quite short in the beginning, allows of being absolute master of the horse, and will do away later with employing force with animals that will have acquired the habit of obedience. Knots habitually put in longes, will then only bother us.

|| If there is no cavesson, the longe is made fast, as mentioned above, to the middle ring of the halter nose-band.

¶The instructor being more conveniently placed when he gives the exercise to this hand.

**The instructor, when going to the ring, leads the horse, either by the snaffle reins, the bridle put on under the cavesson, or by the longe held in the right hand, and keeps the slack of the longe in the left hand as well as the whip, lash to the rear. Before beginning the longeing, he is careful to tie a knot in the snaffle reins and to pass them through the throat latch so as to avoid their dragging on the ground.

To move out at the click of the tongue.—The lesson is begun by accustoming the horse to move forward at the click of the tongue. For this, the instructor holding the longe in the left hand and the riding whip, lash down, places himself at the horse's head on the near side; the assistant, having in his left hand the slack of the longe and in the right hand the long whip, placed as we have prescribed, remains quiet alongside the horse's flank; instructor and assistant are thus on a line parallel to the direction of the horse (Fig. 2). The instructor pushes the horse's head with his right hand, and then obliges the animal to move as if he wished to make him turn outward from the ring; he

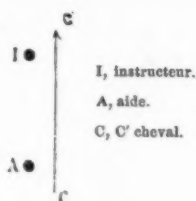


Figure 2.

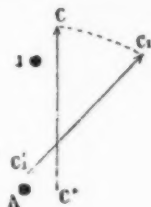


Figure 3.

executes this movement as much as possible while advancing and accompanying the horse in his wheel until the assistant, *without having changed place*, is behind the horse and even a little to the right of his rump, if it is desired to describe a circle to the left hand (Fig. 3). Difficulty would be experienced with some horses in obtaining the turn through pushing the head from the side toward which it is desired to make them walk. It will be easy to accomplish this by being careful, before the first lesson with the longe, to make them walk, lead by hand, sometimes to the right, sometimes to the left, along a wall or on the track in a riding hall: recourse is had to frequent changes of hand by half-circles or reversed half-circles, and always pushing the horse's head to turn, instead of pulling him toward you (Fig. 4). The instructor then makes a click of the tongue, which, if not immedi-

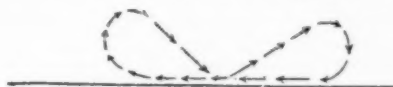


Figure 4.

ately followed by moving forward, is supported by a touch of the long whip more or less strong, according to need, and applied on the right side of the rump. This movement of the whip is easy for the assistant, if the latter is behind and to the right of the rump (Fig. 3), where he surely will be if the instructor has made the horse turn sufficiently. We purposely insist on the long whip being applied by the assistant placed outside the ring; if this assistant were within the ring, he would make the horse range his haunches outside and the latter would then pull on the longe, faults that we seek above all to avoid. We also enable the assistant to urge the horse from the outer side of the ring, while recommending, however, that he act so as not to send the animal off toward the center, which is still easy to correct, the instructor with great ease forcing the horse outside the ring.

The effect of the tongue click or whip will be to carry the horse forward. The instructor, remaining in place, allows this movement to go on for a meter or a meter and a half, paying out the longe for this length only, so as to constrain the animal to describe a small circle around him. If the horse walks freely on the circle the instructor gives him a little more freedom, accompanying him on an interior circle and being careful always to keep a little in rear of his head, so as not to precede him in his walk. If, after two or three steps, the horse stops (which most often happens) and faces the instructor, the latter must also avoid trying to start him forward; he must, on the other hand, draw him to himself, if possible, yield him the longe, give him confidence by caressing him, then begin over the lesson by again placing himself as well as the assistant on a line parallel to the axis of the horse. This very important lesson requires much patience on the part of the instructor; but it is rarely that, repeated three or four times, it does not suffice to make the tongue click understood, which is next used with success when the horse wishes to stop on the *small circle* that you seek to make him describe *at the walk*. The assistant, might, if necessary, follow the horse, but should describe a circle slightly exterior to that traced by the horse, and consequently larger, to absolutely avoid making the horse pull on the longe.

In general, the instructor makes this whole lesson easier by making use of a corner of the riding hall.

To stop.—The lesson is continued in teaching the horse to halt on the circle.

To come to the center.—He also must be taught, at the signal *Come here*, and at the least pull of the instructor on the longe, to go to the center.*

One must also be very exacting in this last movement; if the horse arrived at some paces from the instructor, stands fast, refusing to advance, you must instead of yielding by going to him (as is often the tendency), preferably step back a pace or two, make him step aside to get him in motion, and seek to draw him to you; if the horse still stands fast, the assistant is ordered to pass around behind to urge him toward the center, but making a circuit big enough not to frighten the horse before being squarely behind him. The animal is at once rewarded for his obedience by yielding the longe and then by a caress or a handful of oats.

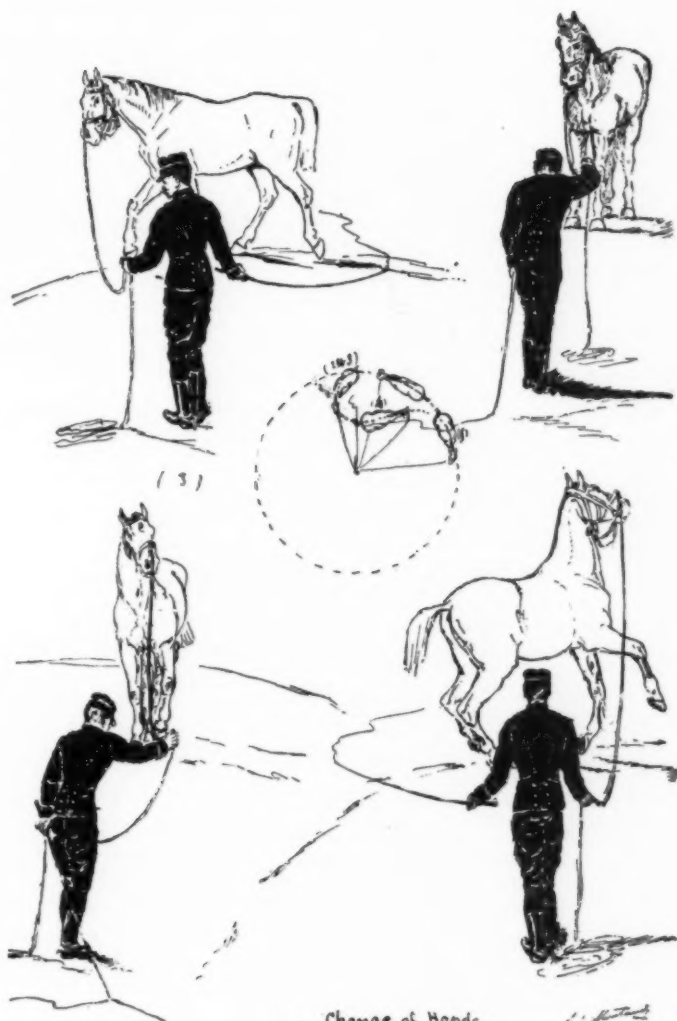
The movements when well executed to the left hand will be repeated to the right hand, according to the same principles and by inverse means, taking care to exercise the horse to the latter hand as much as to the former.

To change hands.—To change hands the instructor makes the horse come to the center, drops the longe and goes behind the assistant, passing the riding or long whip from the right to the left hand.†

He is careful to make the change behind his back in order to avoid the horse's seeing the whip, at which he will not fail to be frightened. Whenever the instructor should wish to drop the longe for any reason, he will be careful, in order not to let it drag on the ground, to give the assistant the part of the longe that he holds in his

*In the beginning, the first steps necessitating some jerks that may frighten the horse and make him tend to pull on the longe, it is well when he has obeyed to make him come quite often to the center.

†If the long whip is held as we have laid down, it is easily passed from one hand to the other without alarming the animal.



Change of Hands.
Figure 5. — Changement de main.

hand, and the latter remaining in place will, for the moment, direct the horse.

To accustom the horse to keep away from the center and on the circumference—(Progression to follow.). The instructor will accustom the horse to bear away from the center on to the circumference; to this end, while himself remaining quite still, he will start him moving by a click of the tongue* at the same time that he makes him feel the riding-whip on the shoulder.

This action of the whip will keep the shoulders away from the center, making the horse pivot on the haunches. The instructor thus finds himself quite naturally behind the horse and in a perfect position to urge him on.

Note that in this movement the horse refuses his shoulders and that the haunches remain an instant within the circle, which makes it less easy for them to escape outside.

The horse becomes quickly accustomed to bend on the circle.

After two or three lessons of this nature to the right hand and the left, use of the riding-whip will become unnecessary; it will be enough for the instructor to push the horse's head by placing the right hand† under the left cheek if it is wished to circle the horse to the left.

The horse is next exercised in going away from and approaching the center, as the instructor gives or takes the longe.

Exercise at the walk and trot.—The horse is yet to be exercised:

First.—To pass from the walk to the trot and conversely, then from the trot to the halt.

Second.—To take the trot from the halt, either on the ring or in leaving the center for the circumference.

Changing hands on the circle (Fig. 5).—The horse is to learn to change hands on the ring by a half-circle. For this movement, the horse walking and on a circle at first of small extent, the instructor quits the longe, passes behind the assistant, retakes the longe with the right hand, stops and draws the horse so as to make him face the center, then he compels him immediately to end his half-circle by stepping a pace or two to the right and by extending his right arm to draw the animal in the new direction.

For the first few times, in order to finish the half-circle, the assistant should be made use of; thereafter the long whip and a click of the tongue will suffice.

When the horse knows how to execute the changes of hands on the large circle, the assistant will become unnecessary.

In the exercise to the left hand or the right, the instructor, according to the hand to which he is conducting the march, leaves on the ground and to his left or right, the slack of the longe, around which he walks in accompanying the horse on the circle, just as he walked around the assistant.

He may just as well have the slack of the longe in the left hand and manage the horse with the right, which also holds the whip; but the bulk of the longe and whip together obstructs and makes this process tiresome and not very practical.

*If the horse does not understand, of course the instructor has recourse to the assistant, in order to leave the horse in no doubt as to what is asked of him.

†The hand that pushes the horse's head is precisely that holding the long whip. It is then important to hold the latter as laid down, that is so as not to bother the instructor and not to frighten the horse.

The horse is first exercised at the walk on a narrow circle, then at the trot on a large circle, in making repeated changes of hands, that is to say, the instructor allows him to go for five or six paces only between each change of hands and thus obtains figures of eight slightly elongated. The instructor, besides, does not tie himself down to change the longe to the other hand at each movement (*Fig. 6*).

NOTE.—When longeing is given a well-trained animal* and only with the aim of taking the place of exercise, it is given on a circle as large as possible and then the instructor can, while remaining on the same spot and without turning on himself, hold the longe with but one hand and pass it alternately from one hand to the other to make it pass around the body, according as the horse advances on the circle. In using this latter method the instructor will do well to leave the whip on the ground near him, as it is then difficult and inconvenient to use.

Exercise at the gallop. (*Progression to follow.*)—Instruction at the trot being ended, it will generally suffice in order to obtain the gallop, to increase the pace. But if the horse, although judged sufficiently supple, takes the gallop with difficulty,* starting at the trot must be

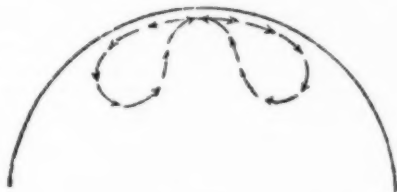


Figure 6.

firmly insisted upon, the horse going from the center to the circumference. By being more and more exacting in this exercise, one or two breaks into the gallop will quickly be obtained, after which the horse should be stopped, brought back to the center and made much of.

This exercise will be alternately repeated to both hands; and in this fashion, prompt obedience will quickly be obtained from the horse when he is on the ring; he will be exercised there in passing from the trot to the gallop, from the walk to the gallop, from a halt to the gallop and conversely.

If in spite of the precautions taken in this lesson the horse was frightened at the whip, and consequently had a tendency to pull on the longe, the exercise must be ended, resuming the exercise at the walk on a narrow circle.

*The horse that must be struck sharply with the long whip to force him to take the gallop on the ring, will soon pull on the longe, throw his haunches outward, gallop false or disunited and tire himself out unnecessarily. It is to avoid these faults that we advise giving up with such a horse the start at the gallop on the ring, and insisting firmly on the other hand on the start at the trot made in leaving the center; for in that place the instructor, easily making use of the whip, without being seen by the horse, will be able both to increase his demands for abruptly taking the gait and to obtain the gallop, which will be the more steady as the use of the whip becomes the more unnecessary.

II. TRAINING AT OBSTACLES.

CHAPTER I.

BENEFIT OF TRAINING THE HORSE AT OBSTACLES.

Jumping is a movement as natural for the horse as walking, trotting and galloping.

None contest the benefit of training in order to develop and regulate the different gaits. Equally is training necessary for jumping, because for this action, more than any other, it is important to make the horse strong and skilful and to avoid certain faults of which the consequences, for very reason of the violence of the effort, are always grievous. So it is wise not to bring up to obstacles the horse that has not been taught to jump.

Willingness and skill, which are two essential qualities and going one with the other, are obtained only on condition that the horse in jumping experiences neither fatigue nor unnecessary suffering.

To arrive at this result it is necessary that the horse be trained to jump, firstly to supple and strengthen certain muscles, such as those of the shoulders and forearms, which have the hardest work in this action; secondly, to get and keep the habit of always making the jump in the way it is done by all quadrupeds in general when free, before anything has happened to contend with their natural ways.

But let us hasten to say if a horse endowed with good disposition or trained to fine condition for jumping were often subjected to an unskilful hand, depriving him of free use of his strength, he would find it soon impossible to execute the jump aright; following upon unnecessary suffering and fatigue, consequence of badly performed jumping, he would quickly lose the freedom and skill acquired through the advantages of training.

Most often training over obstacles is neglected because few know enough to appreciate a good jumper. One hears this qualification generally given to horses that will jump willingly, in a riding school or on a drill ground, some obstacles perfectly known to them and always placed in the same way, but that being insufficiently instructed will refuse to jump in another riding hall, on another drill ground or in the open field. There will be little concern to know whether the horse has been drilled enough for the jump to have become as little tiring as possible for him; small note is made of the form the horse shows in jumping; yet there lies the cause of greater or less amount of fatigue, and resultant possibility of repeating the jump more or less often.

If the horse rushes at obstacles instead of clearing them quietly, it will be said that it is a proof of his love of jumping, whereas it is the forced consequence either of suffering occasioned by injuries or defective conformation, or most often by a too tender mouth, or by the rider's bad hands, or through these two causes combined.

Neither is it considered that this so called qualification makes jumping dangerous and that a horse so unhandy is hard and disagreeable to manage as well for the military man as for the hunter.

Such is what is often said by those who use horses in countries where obstacles are of little moment and quite seldom met with; in this case truly, the animal, provided always of good temper, will patiently bear the suffering, relatively trifling, occasioned by badly executed but infrequent jumps. If on the other hand one happens to risk himself in hunting regions, where, during a half hour's gallop high obstacles must be cleared every 200 meters, the animal thought

such an excellent jumper, after having decided to clear the first obstacles, soon is unwilling to further endure, for very reason of the repeated jumping, the suffering occasioned by his bad methods; soon he is seen to shrink if the instinct of self-preservation overcomes willingness, or to fall exhausted if willingness masters the instinct of self-preservation. Obstinaey or premature breakdown are the consequences of this suffering and useless hardship. These illusions lost, if one persists in going over regions thus sown with obstacles, the necessity will be seen for subjecting the horse to training that brings him also to perform *the regular jump in which he undergoes neither suffering nor needless fatigue*.

It is certain that sluggish, bad tempered, blemished horses, or those having defective conformation are little suited to going over such difficult country; for a high jump often repeated, though perfectly taken, always produces an amount of fatigue and suffering that taxes the physical and moral qualities of the animal.

It is equally certain that in this last category of horses, one too often given to the army, or used in hunting regions that do not lay claim to choice temperaments, nearly all the individuals will be rendered capable of giving excellent service, and that without increasing their failings of temperament, or developing the blemishes with which they are afflicted. But it is necessary, after having taught them *regular and methodical jumping*, that the rider succeed in offering no opposition to its execution, which then will occasion no unnecessary suffering nor fatigue.

Some horses possess great aptitude for jumping, either enjoying particular conformation, or as most happens, having been raised in regions cut up by obstacles.

Major Dutilh, the celebrated riding-master, who was our instructor, advised us to guard against the mistake consisting in belief that methodical instruction might have harmed such a fortunate disposition.

CHAPTER II.

WHAT IS MEANT BY A GOOD JUMPER.

A charger or hunter jumps well *when he is capable of clearing freely at all gaits*—that is at the walk, trot, ordinary gallop and full gallop—obstacles of all kinds, in greater or less number; then, when the obstacle passed, *he readily retakes the gait that the rider desires, and that in tiring himself the least possible*.

It is enough to have followed a few hunts to be convinced that only a horse fulfilling all these conditions can be termed a good jumper.

In fact, is it not quite wearisome to have a mount, obstinate before or avoiding an obstacle, sometimes of small account, because this obstacle is not like those he has been in the habit of taking, or is not placed in the same way?

Is it not indispensable that a hunter or charger be tractable enough to be able to jump at different gaits, and the obstacle passed, retake that desired by the rider?*

*At the time we were following the provincial steeple-chases, together with those of Auteuil and the suburban tracks (which were reduced then to la Marche and le Vésinet), we ascertained that the horses ordinarily running on these tracks, when they went to contend for the prizes awarded in the provincial meets with the almost certainty of gaining an easy victory over animals of inferior order, sometimes found themselves quickly enough out of the running or

It is also evident that if the horse tires himself needlessly in jumping, he can be made to take but few obstacles; if necessary to attempt many, the animal, under the influence of fatigue, and consequent to suffering, will refuse, will avoid or will be prematurely played out.*

CHAPTER III.

ANALYTICAL STUDY OF JUMP OF HORSE AT LARGE.

It is not a matter of indifference whether the horse jumps in this or that way; it is important on the other hand that he perform this action in a way to do away with all useless effort.

In order to study the jump it is necessary to examine the animal at large, because then nothing impedes him and he goes at it following nature's rules.

The horse jumps by the combination of three things:

First.—Dash.

Second.—Muscular effort.

Third.—His own weight differently distributed following the successive phases of the leap.

It is this last action that it is important to study in a special way, in order to demonstrate, that if there be no opposition at its beginning to take into account, the jump will be made almost without effort and consequently without fatigue.

We shall begin by studying the movements of the horse jumping an obstacle of some height *at the walk*. In fact, at this pace, the animal finding himself nearly deprived of dash, the double action of muscular effort and distribution of his own weight in the different periods of the leap, will of necessity be much more marked; consequently movements that the different parts of his body must make will be more apparent and easier to study.

First.—*Study of jump of the horse at the walk.*

We shall distinguish three phases in the jump:

a—*The take-off.*

b—*The leap proper.*

c—*The instant when the horse reaches the ground on the other side of the obstacle.*

refused to jump obstacles less worthy of notice than those cleared daily by them on the tracks that they habitually frequented, and that because once become willing over artificial obstacles made of the model of those found on these tracks, their training was considered as ended.

How many times have we seen horses trained solely with a view to these suburban tracks—refuse to take, during ride or hunt, natural obstacles, whether they may have been frightened by the nature of the obstacles, or may never have jumped at a relatively moderate pace!

These faults are met with much less often to-day that the suburban tracks are many in number, and that for this very reason horses jump over a very great variety of obstacles.

*In the important steeple-chase, set apart for three-year-olds and annually run at Auteuil, each stable believes in the chances of its representative because often he has been chosen from the animals who have in a flat race shown certain capacity and then because he seems to have taken quite well to being a jumper.

Fifteen to twenty horses start in this race, of which the stakes are very high, but yet scarcely four or five are to be seen on their feet at the finish.

Does not this result seem to be the consequence of superficial training? The animal jumps marvelously well the few small obstacles of the training ground, and that at a relatively moderate gait; but becoming tired of jumping, he cannot long keep up a severe pace, such as is generally set in this race.

If training were not generally considered ended before being sure that jumping does not tire the horse, there would certainly be fewer bitter disappointments.

a.—*The take-off*.—On coming upon the obstacle at the walk, the horse hastens his last steps to get a little start and thus diminish the muscular effort necessary to clear not only in height, but also what he must cover in distance when he makes a high jump.*

He gather himself at the same time by getting his hind quarters under him; then he draws back his head and neck on the trunk to carry back their weight upon the hind quarters and thus relieve the forehead, which has every facility for being raised; this facility is the greater the more pronounced has been the withdrawal of head and neck. This withdrawal has been preceded by a movement of extension, which has given some swing to head and neck, then has aided and regulated their withdrawal upon the trunk (Fig. 7).

This motion is hardly apparent, but none the less exists, and the horse conforms, in this play of head and neck, to what man does with

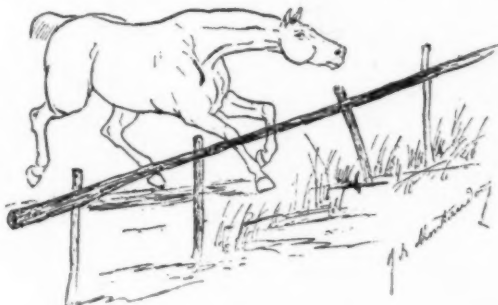


Figure 7. — Extension de la tête et de l'encolure qui précède leur retrait sur le tronc.

Figure 7. Extension of head and neck which precedes their withdrawal on trunk.

his hand when he wishes to throw a stone far: first he extends forward the arm and hand that holds the stone; then he draws the arm back as far as possible, in order next to carry it forward again and launch his projectile.

The more extended the first motion the more so likewise will be the second; and the more extended the second motion the more force the third will have to throw the stone afar (Fig. 8).

The extension that precedes the withdrawal of head and neck upon the trunk is of great importance also as regards the safety of the jump, since it allows the animal to take good account of the obstacle he is about to take.

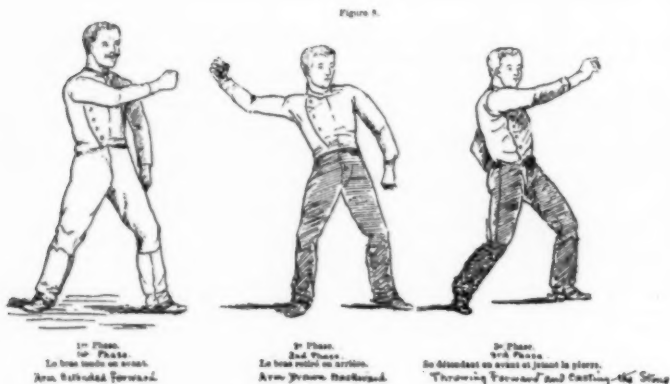
b.—*The leap proper*.—Thanks to the disposition of the hind quarters, which come into play and are overloaded by the withdrawal of head and neck upon the trunk, the horse easily raises the forehead—a motion due also largely to the tension of the shoulders filling in part

*The space the horse covers is measured by the distance comprised between the imprint left on the ground by the foot that was nearest the obstacle before taking it (quite generally a fore-foot) and the hoof print which was likewise the nearest to the obstacle after it was cleared (almost always a forefoot). This space is considerable: at an ordinary gallop and for ordinary obstacles also, it varies between 2 m. 80 and 4 m. 50. These observations will perhaps astonish; they have, however, been made upon many horses.

the functions of a spring, and to the simultaneous bending of the fore limbs (*Fig. 9*).

The animal has not yet finished raising the forehand when immediately he relaxes his hind quarters, making a vigorous effort. This spring, joined to the start given by hastening the last steps, allows the fore limbs, folded back under the body, to reach a sufficient height to be able to pass above the obstacle.

The motion of extension of the hind quarters is still incomplete when the horse extends the forehand, throwing forward his front legs and stretching out as much as possible his head and neck. Next he folds up under him the hind legs to prevent their touching the obstacle* (*Fig. 10*).



The action of extending the forehand and folding up the hind legs under the body throws weight forward; the forehand, which just now was lighter than the hind quarters, next becoming heavier, the animal then seesaws; the forehand goes toward the ground, the hind quarters are gathered while in the contrary direction.

To sum up, to carry the forehand over, the horse shifts the greater part of his weight upon the hind quarters; and to carry over the hind quarters, he shifts on the contrary the greater part of this same weight upon the forehand.

The hastening of the last steps, joined to the extension of the hind quarters, gives the necessary dash to cover the distance.

c—*The instant that the horse reaches the ground on the other side of obstacle.*—The forehand having drawn over the hind quarters in a seesaw movements, the hind legs reach the ground after the fore legs and are placed more or less near the latter.

*Some horses, instead of folding the hind legs under the body, let them go as if for a kick, which, moreover, is quite infrequent and seems to be connected with the case where the horse may find need of carrying back weight to the rear, because he has extended the forehand too much. This way of acting disappears according as the horse acquires the habit of executing the jump with regularity.

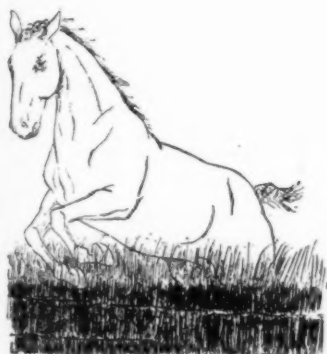


Figure 8. — Elever de l'avant-main (1^{re} phase).
Figure 9. Raising the fore-hand. (1st phase)

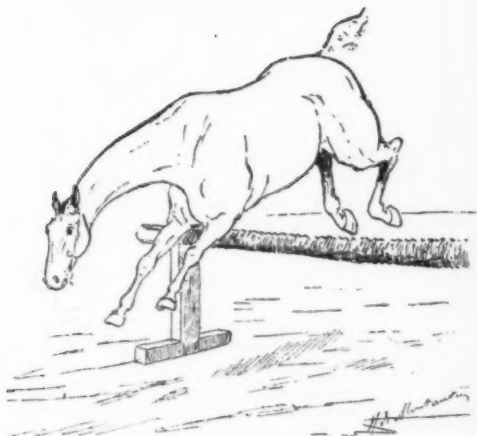


Figure 10. — Extension de l'avant-main (2^e phase).
Figure 10. Extension of fore-hand (2nd phase)



Figure 11. — Cheval au pas et s'élevant près de l'obstacle.
Figure 11. Horse at a trot and springing near obstacle.

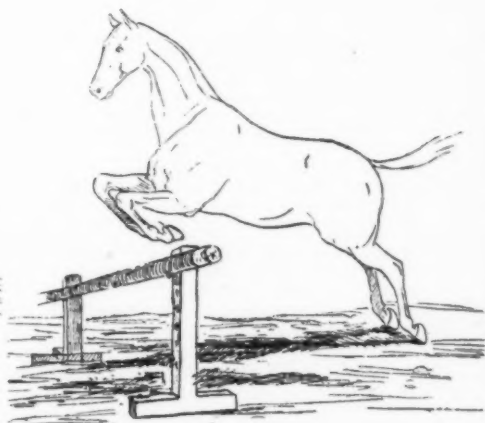


Figure 12. — Cheval au galop et s'élevant loin de l'obstacle.
Figure 12. Horse at a gallop and springing far from the obstacle.

The head and neck resume then their normal position and the animal continues his course.

Second.—*Study of jump of the horse at full gallop.*—To clear an obstacle at the walk, the horse, almost deprived of any start, must spring near the obstacle and almost vertically (*Fig. 11*).

In fact, were he at this gait to spring from afar, he would have to expend, for lack of a start, a considerable amount of muscular energy to cover the necessary horizontal distance; this amount of energy might even be beyond his strength.

At the walk, taking off near the obstacle is then essential for the jump to be executed under the best conditions.

On the contrary, at the full gallop the horse springs further off, and no longer perpendicularly but obliquely to the ground, so as to rise if on an inclined plane to the height necessary to clear the obstacle (*Fig. 12*).

These two conditions, moreover, are conjointly responsible for each other. Indeed, if the horse springs near the obstacle he must perforce rise almost perpendicularly to the ground. Therefore in this case he shows perforce a stopping, under penalty of striking the obstacle, and it is this stopping that it is important to avoid in jumping at full gallop. At this gait, in fact, stopping, shown before the jump, presents serious difficulties: it makes the animal lose all the benefit of his speed and obliges him, so to speak, to jump only by the method in which he causes the distribution of his own weight to change, and by muscular effort; consequently he experiences needless fatigue. Further, if we consider the race-horse, stopping, gives rise, beyond the useless fatigue we just noticed, to that which he undergoes in striving to catch up between obstacles with his competitors, who have not slackened the pace in jumping.

To sum up, the spring that the horse makes in jumping at the full gallop should be made like one of the leaps of the gallop in which the forehand should rise enough to reach the height of the obstacle.

Just as at the walk, this result is obtained by withdrawal of head and neck upon the trunk and by the play of the hind quarters which come into action more or less according as the obstacle requires more or less strength. The difference is that at the walk the preliminary extension of head and neck that causes their withdrawal upon the trunk is much more marked, while at the full gallop this extension is scarcely appreciable. It exists, nevertheless, quite as useful for ease of jumping and indispensable for its safety.

Third.—*Study of jump of horse at intermediate gaits.*—Knowing the way the horse handles himself in jumping at extreme gaits it is easy to deduce therefrom what he ought to do, according as the pace approaches more nearly the walk or full gallop.

The slower the gait, that is to say, the less start there is, the more pronounced is the play of head and neck, the more muscular force also must the horse employ; consequently, the more he tires in jumping.

On the other hand, the faster the gait, that is to say the more there is of a start, the less pronounced is the play of head and neck, the less muscular force also must the horse employ; consequently, the less he tires in making the jump.

[TO BE CONTINUED.]

KUROPATKIN AS A COMMANDER.

By Sven Hedin in London Times.

THE first time I personally had the honor to meet General Kuropatkin he was *voennyi natchalnik*, or military commander, of the new province of Transcaspia. That was in October, 1890, and at Askabad, where he had his headquarters. When I called upon him my overcoat was taken charge of by a Cossack and I was ushered into a large hall, where I was received and my visit announced by an aide-de-camp. The walls of the noble apartment were adorned with Asiatic weapons, ancient and modern, and with portraits of the Imperial family. After I had waited a little, the general entered, dressed in full uniform, for he was about to preside at a meeting of some sort. He is a short but strongly-built man, with a black beard and small but kindly and intelligent eyes. I was just then setting out on my first journey to Kashgar, and Kuropatkin gave me a good deal of information about the dangerous pass of Terekdavan. Although I expected to find it buried in snow, he did not attempt to dissuade me from the journey; a Northerner would not permit himself to be deterred by either snow or cold. When I let fall the remark that upon my return home I intended to write a book about Turkestan, Kuropatkin replied, humorously, that there were no secrets in Askabad. I was at perfect liberty to go where I liked; I might freely visit all the institutions in the town, might count the soldiers in the barracks, as well as the big guns, the rifles and the cartridges in the magazines, sketch whatever I thought fit, and he added, "you may even write articles about it all to the *Times* if you like." If I met with any difficulty I had only to report the matter to him and he would see me righted.

Since then I have had several occasions of meeting General Kuropatkin, and when journeying to and from Asia have never failed to call upon him, either at his house in St. Petersburg, or at his datcha, or "villa," on one of the islands of the Gulf of Finland; but on the other hand, although I have been invited to visit him on his estate at Terijoki in Finland, I have never been able to do so. His villa, which is only twenty minutes' drive outside of St. Petersburg, is severely simple, not a trace of luxury about it: a well-to-do tchinovnik would hardly be able to abstain from turning up his nose at it. And yet the general is a millionaire; but he is too honest and too proud a man to employ his wealth in ministering to his own selfish pleasure—such a use for it he would look upon as absurd. He has consistently set his face against pomp and ceremony, and endeavored, even while at the summit of honor and power, to preserve the simplicity of the soldier; indeed, it has seemed to him a simple matter of duty that the man who has the leading of the army ought, in point of both conduct and manner of life, to set an example to the men under his charge. And even now, when the destinies of Russia are in his hands, when he is leading her armies through showers of shot and shell, when his name is daily upon thousands and thousands of lips all the world over, and heads the columns of all the newspapers in existence—even now he is distinguished by the same outer simplicity; no *recherché* dishes, no choice wines are allowed to appear on his table; he makes no claim for special comforts, but leads the simple soldier's life; he shares the difficulties and troubles of his men, takes an interest in the well-being of each company, sees to it that no man wants for anything, visits the

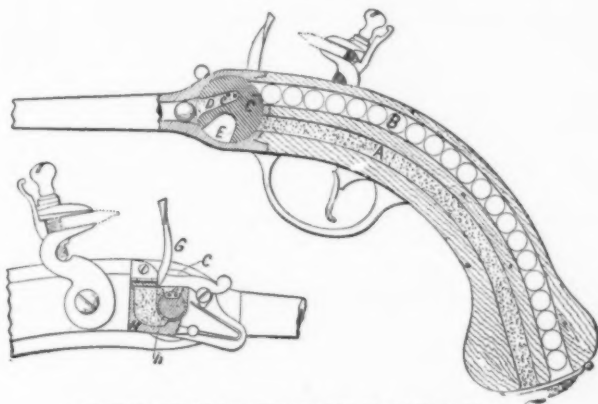
sick in the hospital, speaks words of kindness and encouragement to all, has time for everything, and is at all times and under all circumstances calm and unruffled. I am convinced that the Japanese must have an unbounded admiration for their great opponent.

Kuropatkin has always been a very hard worker, but even when Russian Minister of War he did not forget the interests of his earlier life. He has always remained a keen geographer, and has constantly kept himself abreast of the progress of Asiatic discovery. I have more than once had occasion to wonder at his knowledge in this field. For instance, he has always closely followed even in detail every phase of the Lop Nor controversy. In his book "*Kashgaria*" he describes the discoveries which Prijevalsky made in the region of that lake; but when I subsequently showed him the untenability of the great Russian discoverer's views, Kuropatkin was one of the few Russian scientific geographers who was convinced and gave up his countrymen's standpoint. Once, after I had been expressing to him my regret at having been forced to begin the dispute about the Lop Nor with the Russian geographers, he answered quite calmly, "It will do them good to have a lesson."

In April, 1899, I met Kuropatkin several times. On one of these occasions we were sitting at his writing-table discussing my contemplated journey, when a Cossack entered, bringing a huge bundle of papers in a sealed portfolio. While the general was turning them over I took the liberty of asking him what was the meaning of the peculiar marks in blue pencil which I saw on the margins. Kuropatkin told me that they were the military reports of the week, which the Czar had just read, and that the blue pencil marks were made by his Imperial Majesty's own hand. One particular mark meant "I approve"; another expressed the opposite; while a third signified "I want further details," and so on. I gave utterance to my astonishment that the Czar found time to read through all those reports, whereupon Kuropatkin answered: "Yes, and it is even more astonishing how he finds the time for reading through all the reports of all the other ministries." Once when I was dining with General Kuropatkin he had as a guest a colonel who had recently returned from Fashoda. After dinner the latter was to present to the Minister of War two Cossacks, who had exhibited unusual proofs of courage and presence of mind by swimming across the Nile on some important errand. Kuropatkin invited me to accompany him to witness the ceremony which was then about to take place. The Cossacks were waiting in the vestibule, each wearing the gold medal which he had that day received from the Czar. The general at once addressed the two men in a short speech, thanking them for the example they had set to their comrades in the army, and then gave to each man as a memento a gold watch in a case and a roll of gold rubles.

It was interesting to observe with what energy and vigor Kuropatkin directed the military and even the civil affairs of his province. Everything worked like clockwork, with the greatest regularity and punctuality. Every Tuesday he directed the maneuvers of his troops, not seldom covering a march of twenty-five miles. On the following day he called his officers together and criticized the evolutions of the preceding day's march. In his Cossacks, their troubles, their wishes, their needs, he took a direct personal interest, and always liked to see happy and contented faces about him. But on the other hand, he maintained a rigid military discipline, and would tolerate neither laxity nor weakness.

In November, 1890, I saw Kuropatkin again in Samarkand. I remember, as well as if it were yesterday, witnessing the arrival at the railway station of the governor-general, Baron Vreksky. Kuropatkin met him at the train. The two distinguished men took their seats in an open carriage, and away they galloped behind a troika of coal-black horses to the governor's palace. In front and behind the carriage was escorted by a troop of Cossacks bearing long pennoned lances. The people made way and greeted respectfully as the cortège swept along in a cloud of dust between the beflagged façades of the houses. On the following day I was invited to a military dinner with the governor-general. Among the officers present at the table there were three who have especially distinguished themselves in the history of Russian Turkestan. The first was Kuropatkin himself; the second Grodekoff, who, in 1878, undertook the famous ride to Herat and described the conquest of the Turkoman country by the Russians; and thirdly, Rasgonoff, who was a member of the mission that was sent in 1878 to the Ameer Shere Ali Khan at Kabul, a mission which at the time caused a good deal of uneasiness in England.



SECTION THROUGH WETSCHGI'S MAGAZINE PISTOL.

Made about beginning of eighteenth century.

MULTI-FIREARMS OF ANCIENT TIMES.

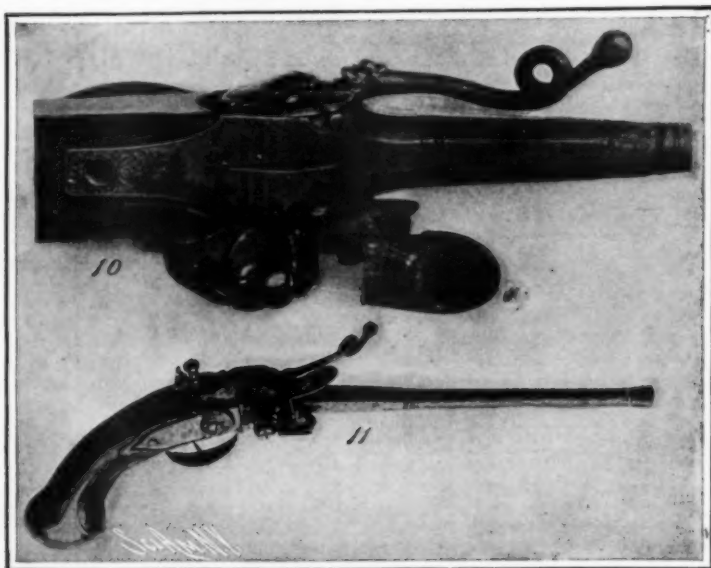
(*The Scientific American.*)

A VERY rare and curious specimen of an ancient repeating flintlock pistol has lately come into the possession of Mr. Sumner Healey, of this city. The pistol, of which we produce a drawing and photograph, was made at the end of the seventeenth century by Wetschgi Augustus, who died in Vienna A. D. 1690. The pistol contains two magazines, one, A, which contains the powder, and the other, B, contains the balls, twenty-one in all. An additional priming magazine H is on the outside of the lock and close to the flash-pan. To load, one depresses the muzzle and turns or rotates the cylinder C by means of its exterior lever. One of the balls contained in the magazine B drops into the cavity E, which

comes opposite *B*. At the same time the powder chamber *D* of the cylinder is filled with powder from the magazine *A*. When continuing to rotate the cylinders, the ball contained in the cavity *E* falls into the funnel-shaped breech, and by a continued motion of the cylinder the cavity *D* is brought opposite the breech of the barrel, where it remains until the shot is fired. During this time the reduced prolongation of the cylinder at the exterior rotates and scoops from the magazine *H* a sufficient quantity of powder to prime the flash-pan. A continued movement closes the flash-pan cover *G* and brings the hammer to full cock. When the pistol is fired, the priming charge shown at *E* communicates the fire through the two small holes to the charge contained in the cylinder.

The weapon bears the following inscription:

PECIT ET INVENTIT WETSCHGI AUGUSTAE.



WETSCHGI'S PISTOL.

10. View of priming mechanism. 11. General view of pistol.

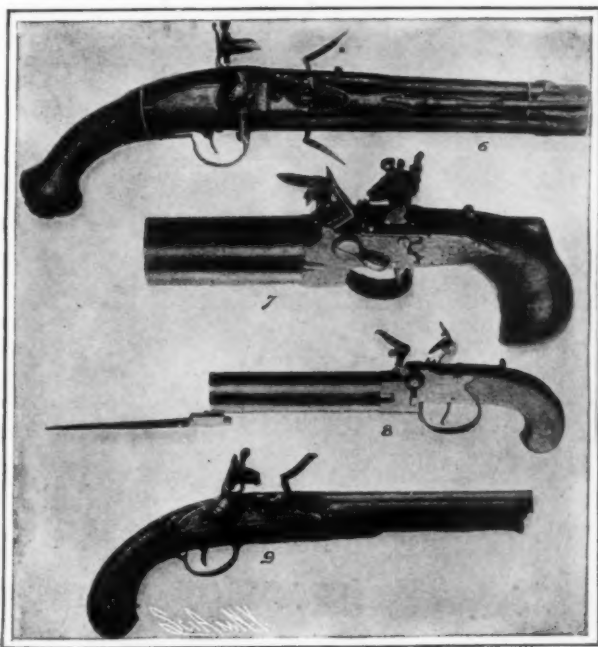
It may be readily seen that unless the revolving cylinder is accurately fitted, the danger of using such a weapon must be great, the powder in the butt, sufficient for twenty-one charges, being separated from the barrel only by the revolving cylinder, which serves as a false breech for the barrel.

A weapon of like construction to the above is in the Musee d'Artillerie, Paris, and is catalogued as M1766, but very few of these weapons, either gun or pistol, are known to be in existence. Among others who built similar weapons are Jan Sander, of Hanover, and Antonio Constantin, of Ferrara, Italy.

From a military point of view, the design of the arm gives evidence of being far in advance of its time. If everything works properly, the arm can be fired nearly as quickly as a modern weapon of to-day. Very little time is required for charging, and it is only necessary to fill the compartments with bullets and powder through the orifice *F*, with no counting and measuring. The charges are automatically measured, and the load is fully as accurate as that of metallic cartridges.

Altogether, the design and workmanship of the pistol make it a most valuable and remarkable relic.

Another pistol in the same gentleman's collection is a four-shot flintlock pistol (Fig. 7). The weapon is evidently of English origin,



ANTIQUE PISTOLS.

6. French two-barrel revolving flintlock pistol made about 1750. 7. Four-shot English flintlock pistol made about 1750. 8. Two-shot English flintlock pistol with spring-bayonet attachment. 9. "North's Berlin" U. S. pistol made in 1813.

and was presumably manufactured about 1750. It has two separate hammers, two triggers, and two separate flash-pan covers. The two upper barrels are fired separately by pulling the respective triggers. When these are fired, to fire the lower barrels one turns the lever shown at the center of the pistol, which brings two fresh primings in contact with the sparks from the flints, and thus communicates the



ANTIQUE RIFLES.

1. Spanish snap-hammer blunderbuss made about 1700. 2. First breech-loader ever made in the U. S. 3. Spanish double-barreled flintlock gun made about 1700. 4. German rifled wheel-lock arquebus made about 1620. 5. The most perfect form of English blunderbuss. A folding bayonet is carried on top of the barrel.

flame to the two lower barrels through an orifice which is opened by the turning of the lever.

The arm can be fired quickly. All that is necessary after the first two shots are fired is to reclose the flash-pan covers and to recock the hammers.

Fig. 8 shows a two-barrel, English flintlock pistol with spring bayonet attachment, made by Nock, the celebrated London gunsmith. The pistol works on the principle of that shown in Fig. 7, with the exception that it has two barrels and one hammer and flash-pan cover only.

Fig. 9 shows a United States flintlock pistol, caliber 70, made for the United States Government, by Simeon North, Berlin, Conn., about 1813. No pistol made for the Government in early days is so much sought for by collectors as this, known as "North's Berlin." On the lock plate, in the rear of the hammer, is stamped "S. North, Berlin, Con." Between the hammer and the pan is an eagle and under the eagle is stamped "U. States."

This particular model was only made one year, and but very few are known to be in existence.

Fig. 6 shows a two-barrel, revolving flintlock pistol made by Bauduin, a French gunsmith, about the middle of the eighteenth century. This arm may readily be called the precursor of the modern revolver. The top barrel being fired, one revolves the barrels by hand, and as soon as the hammer is recocked, the pistol is ready for the second shot.

Among some guns in the same gentleman's collection, photographs of a few of which we reproduce, is that figured 1, which is an example of the early Spanish snap-hammer blunderbuss, made about 1700. Fig. 5 illustrates an English blunderbuss, manufactured by Twigg, of London, and shows the blunderbuss in its most perfected form. The arm, besides being a firearm, carries a folding bayonet on top of the barrel. Similar arms were much used in England in the latter part of the eighteenth century, most of the guards of the old English mail coaches carrying them in a special compartment at the rear of the coach. Fig. 2 shows John H. Hall's patent breech-loading flintlock rifle. This arm is the first breech-loading weapon ever patented in the United States, and was patented by William Thornton and John H. Hall, May 21, 1811. In 1815 Mr. Hall first brought to the notice of the Government the advisability of making all parts of a gun interchangeable with any other gun of the same model. In 1819 John H. Hall contracted with the United States Government to manufacture a certain number of these breech-loading flintlock rifles. The gun can well be described as the first successful breech-loading military arm, and also the first gun ever built on the interchangeable plan. Fig. 3 shows a Spanish double-barrel flintlock gun of the beginning of the eighteenth century. While a few double-barreled guns were made some time prior to this in Italy by some Italian gunsmiths, the Spanish craftsmen were the first to forge a light, strong and accurate-shooting double-barrel. In later years the double-barrel flintlock gun was brought to its high state of perfection through the efforts of Joseph Manton and a number of other English gunsmiths. No. 4 illustrates a German rifled wheel-lock arquebus, made about 1620. It is believed that guns were first rifled by Gaspard Zollner, of Leipsic, about 1498; others say by Augustus Kotter, of Nuremberg, about 1500. In 1631 William Landgraf, of Hesse, had several companies armed with rifled carbines.

The earliest authority we have for rifling in England is an English patent dated 1635.

The same gentleman has a number of United States flintlock muskets dating from 1799, when the first musket was made for the United States Government, to 1842, when the last of the flintlocks were made.

Altogether, the collection, although small, gives evidence of having been carefully and tastefully selected.



GEN. MISHCHENKO.

WHEN MISHCHENKO LED HIS COSSACK HOST.*

(Special Correspondence of the Herald.)

NEAR YINKOW, January 14.—The advance of Mishchenko's three columns was the best thing from the spectacular point of view which I have seen during the present war, and was at the same time one of the most daring and successful enterprises which the Russians have so far essayed.

On December 26th, the day after the Russian Christmas, or January 8th, with us, General Mishchenko, the Blücher of the Russians in the present war, crossed the Hun River, near Sudyatun, at the head of twelve regiments, that is, seventy-two squadrons of cavalry, with the object of destroying nine million rubles' worth of stores which the Japanese had accumulated at Yinkow for the use of their army and which they had only left three hundred men to guard.

The Russians have, of course, agents in Yinkow, who made them

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acquainted with these facts, and the expedition of Colonel Plautine, of which I have already written an account for the *Herald*, as well as various expeditions of other detachments of Mishchenko's command—one of which, carried out by the Tersko-Kubansky Regiment, a force of Caucasian volunteers, went as far south as the Taitze River—disclosed the fact that with the exception of a few small and isolated Japanese posts, at Shalin, east of Liao-Yang, at old Niu-Chwang and in one or two other places the road from Mukden to Yinkow, along the eastern bank of the Liao-Ho, was practically open. Mishchenko would not, of course, refrain from destroying any force of Japanese or Hunghuzes or from burning any of the enemy's transports that he came across, but his main object was Yinkow.

Naturally this was kept secret, and in spite of all that has been said about the excellent, not to say miraculous, manner in which their Chinese agents serve them the Japanese do not seem to have suspected until the last moment that our raid was anything more than one of the usual small Cossack forays against the Hunghuzes. The cutting of the railway between Liao-Yang and Yinkow in order to prevent the despatch of troops southward was a necessary part of Mishchenko's plan.

COMPOSITION OF THE FORCE.

Mishchenko had with him, in addition to his twelve regiments of dragoons and cavalry, twenty-two cannon, that is, almost four batteries. Two of these batteries fired melinite, the rest shrapnel. All of them were, of course, horse batteries, six horses pulling each gun. There were, besides, four Maxims with the Degistan regiment, but these useful battle guns were never, I think, used during the advance southward.

We marched in three columns. The right column, which consisted of the Primovsky, Nervinsky and Chernigovsky Dragoons and the Frontier Guards, was commanded by General Samsonoff, and until the main force reached the Taitz it traversed the west bank of the Liao.

The central column consisted of the Zabaikal Cossacks, that is of the Verkhnyudinsky and Chitinsky regiments, and of the Ural Cossacks. It was commanded by General Abramoff, the leader of the Ural Cossacks, and General Mishchenko accompanied it.

The left column consisted of the Don Cossacks and of the Caucasian brigade. It was under the command of General Tyeleschoff and was followed by the Zabaikal battery, the soldiers of which bear in front of their black busbies a metallic scroll commemorating their bravery during the Boxer troubles.

Besides there was the mounted infantry, a fine body of men who should alone have carried Yinkow station on January 12th. As is pretty well known, each Russian regiment of foot has attached to it some hundred or so of cavalry. As under present conditions at the front, these horsemen are unnecessary they were all drafted for the time being into Mishchenko's detachment, which therefore amounted in all to some 7500 men. From this force different parties were from time to time detached for the purpose of cutting the railway, but of this hereafter. The four Maxims went with the Degistan regiment of the Caucasian brigade, but it was not the Caucasians who were supposed to work these guns. Trained men had been brought from St. Petersburg for that purpose. They were under

the command of Captain Chaplin, a promising young officer who had served in the artillery at Warsaw, but who was unfortunately the first man to fall on the occasion of this expedition.

A PICTURESQUE SIGHT.

I do not think that the present war has exhibited anything more picturesque than this southward march of the Russian cavalry. The mixture of races and costumes alone was something extraordinary. Among the Don Cossacks were Kalmucks and Tartars; all the Caucasians with the exception of the officers were Mohammedans, and among the Trans-Baikal Cossacks were many Kirghiz and Buriats. In that huge force of horsemen Buddhists, Mohammedans, Catholics and Lutherans all marched side by side in peace, and all prayed to God in their various fashions.

In my eyes, at least, the Caucasians redeemed their inefficiency by their picturesqueness. Outside of a theater I have never seen anything to compare with them. Their strong point was a row of cartridge pouches sewed to the coat, or rather, made of the same



MISCHCHENKO'S COSSACKS.

piece of cloth as the coat itself and running obliquely down each side of the chest, after the manner shown in the photograph. Whatever use these pouches may have been put to in olden times, I have never but once seen them contain anything more dangerous than little ivory tubes made somewhat after the style of a cartridge, and generally used for containing snuff or tobacco.

The Caucasians all ride good horses from their own mountain—horses that are slender, graceful and handsome, like the typical Caucasian youth himself, and that seem able to travel almost any distance without tiring.

For some reason or other the same thing always happens when a Caucasian mounts his horse. One catches sight of him poised for a moment on one stirrup, while the horse rears and prances; then there is a flop of variegated petticoats, a jingle of spurs, a rattle of weapons, and the rider has tumbled into the saddle and is telling his still prancing steed in tones with more of admiration in them than of anger that it is naughty, very naughty.

* * * * *

As the scouts in front and rear and on the flanks were regularly relieved there was no chance whatever for a strange horseman to accompany us without being observed. It would go hard, I am afraid, with any Japanese scout or enterprising but unauthorized war correspondent who attempted to get a view of us, even a long distance view, for without doubt he would have been immediately "spotted."

It must be admitted that the country was not the very best for horsemen, the land being all cultivated with the usual terrible thoroughness of the Chinese agriculturist and traversed by interminable little ridges which are bad enough for horses in any case, but which are rendered worse by the countless millions of sharp *kiaoliang* stalks with which they are covered.

On the first night after crossing the Hun River we halted at Si-fontai, and next day we faced south and continued marching south until we reached Yinkow.

On the very day on which we reached Si-fontai our scouts reported a conflagration in a village toward the southeast, but I should have concluded that it had no significance and was probably an accidental fire, had it not been for what happened next evening.

On the second day we reached a village called Yowdyze, near the confluence of the Hun and the Liao Rivers, and it was here that we came for the first time into contact with the Japanese. Toward evening our foremost scouts overtook a small party of the enemy who were conveying a transport train consisting of twenty Chinese carts filled with hay and *kiaoliang*.

The main body of our column—that is, the right column—had no sooner reached these carts than we noticed an enormous cloud of black smoke rise from an adjoining village and hang suspended in the still air, a warning to all the Japanese for miles around. I had been previously disposed to scoff when I heard the Russians declare that every flash of light or column of smoke which they saw in the distance was a "signal," but there could be no doubt about the nature of this conflagration, for an officer of the Tersko-Kubansky regiment who entered the village found that the burning house was surrounded by empty tins of kerosene which had evidently been poured over the building.

When night came on we could see fire after fire being kindled in the east, one further away than the other, the remotest probably burning within easy distance of Yentai. They were certainly signals, and as I gazed on them from a hillock I could not help recalling some appropriate lines in Macaulay's poem on the Armada, and at the same time thinking how much inferior, after all, is the vivid imagery of the most warlike poetry to the bald truth of the real thing.

On the morning of December 28th (O. S.) we got ready before dawn—although, of course, there was not much to get ready, for we travelled as lightly as possible and our horses were always kept saddled—and assembled to hear the order of the day in a vast, sandy valley, one of these bits of gobi that break out like a rash on the smooth face of the plowed land.

* * * * *

It was clear to us all this day that something big was afoot. The signals of the night before had probably prepared the men for something, and you could not fail to notice that they were prepared

by the vigilant glances they threw around them and the care with which they scouted. I happened to be riding on this occasion with the advance guard, not because I wanted to see the first shot fired, but because I had mistakenly supposed, when it started, that it was the main body.

As our strong, fresh horses bounded beneath us over the illimitable plain I began for the first time to understand the delight which the soldier takes in war. I had not been able to understand it previously, having been mostly occupied during battle in mournfully sitting on a bare hillside calculating by what time the Japanese batteries would get the range of us, and scribbling memos in my notebook regarding the disposal of my horse and camera. That sort of warfare drives fear into the marrow of one's bones, but on horseback, his lungs filled with ozone and his eyes bright with health, I think that even the coward gets an infusion of courage sufficient to make him laugh in the teeth of death or at all events to bear himself like a man until the ordeal is past.

As a pastime pursued for its own sake war—of the kind which old Mishchenko gives you—leaves fox-hunting far behind. In both cases you have the hard riding and the open air and the glorious sweep of country, but in war you have the piquant spice of danger, and even if you are a non-combatant the intoxicating sense of power, without which a ride across country will ever afterward seem to you like salad without vinegar, like an egg without salt.

When on the day after the fight at Yinkow I left my orderly, my Caucasian friends and Mishchenko in order to ride into a part of the country that had not yet been visited by the war, I felt like Brigadier Gerard after Waterloo. I was no longer anybody. Plump chickens walked right in front of me without the slightest system of alarm, and men hurried past me on the street just as if I had not come straight from a battle-field. I felt sad and depressed and determined to get "back to the army again" as speedily as possible.

Nearly every Cossack engagement opens in the same way. A Cossack scout rushes back breathlessly to his leader, and somehow or other, there is never any mistaking the news he brings. On two occasions, at all events, when I marked the agitation of the courier and the fleetness with which he rode, and noticed our leader bend forward in his saddle in an attitude of keen expectation, I said to myself, "Something serious has happened," and on both occasions I was right—a man had been shot. One of these occasions was the present, but when the man reached Colonel de Bunting and saluted he gasped and remained silent. It was not that he was wounded or breathless. The reason of his silence was that he was a Caucasian and unable to speak a word of Russian.

At the same time the first rifle cracked and Staff-Captain Chaplin fell from his horse, shot through the heart. He was a promising young officer who had been in the artillery at Warsaw, and had at the time of his death control of the four machine guns of the Degistan Regiment.

An interpreter having been found, Colonel de Bunting succeeded in ascertaining from the Caucasian scout that there was a band of Hunghuzes in the vicinity of a village called Lee-Quee-Shou. He therefore gave the order to charge, and the Tersko-Kubansky and the Donsky Cossacks received at the same time a similar command. The Hunghuzes were on the opposite bank of the Hun River—we were not far now from the point where the Hun joined the Liao—

and had apparently fired at us from behind one of the earthen mounds which the Chinese have constructed for scores of miles along the bank of the river in order to protect their fields from inundations. The Cossacks, therefore, crossed the ice and swept like a whirlwind on the Hunghuzes. The memory of that charge will make me feel proud the longest day I live.

The horses swept across the plain at a speed which one could scarcely have believed possible, considering the nature of the ground, and amid the clouds of dust raised by their horses' hoofs the swords of the Cossacks flashed. The Hunghuzes scattered so rapidly that I could form no idea of their number, but some officers put it at five hundred. Many of them stood their ground bravely, firing on the Russians until their heads were cloven by the Caucasians.

There can be no doubt that this band of mercenaries was in the service of the Japanese, for there were Japanese among them, and moreover, we captured from them a Japanese flag bearing a Chinese inscription meaning "the right camp of the left wing"—a "camp" in the Chinese Army consisting of five hundred soldiers. They were all hardy, well-formed men in the prime of life, and they rode good Chinese horses, but did not carry any swords or lances. Their Japanese instructors evidently took great pains to drill them, and on this occasion they were a credit to their instructors.

DEATH OF A FRENCH OFFICER.

Somewhat further south, our central column got into a far stiffer fight. Near the confluence of the Hun with the Liao there is a small walled village called Shou-to-ze, and in this village several hundred Japanese infantrymen held out with characteristic obstinacy for all the rest of this afternoon, thus delaying us by half a day and incidentally saving Yinkow.

The Verkhnyudinsky Cossacks were ordered to dismount and advance against them, and they did so with great courage, their officers riding in front. The first report we got was that the Verkhnyudinsky Cossacks were driven back and two of their officers wounded, one of these wounded officers being afterward carried inside the village by the Japanese. But next morning we saw the leathern coated men from Verkhnyudinsky advancing with the rest of us, and heard that they had taken the village on the previous evening, all the Japanese being killed or dispersed. Unfortunately, two brave young officers of the Verkhnyudinsky lost their lives on this occasion, one Nekrasoff, a sotnik or centurion of great bravery, who had previously been wounded twice during the present war, and the other, Ferdinand Bertin, a French officer.

* * * * *

Lieutenant Bertin was buried before dawn next morning, January 11th, and the same day we crossed the Taitze and advanced on old Niu-Chwang. Not all of us went that way, however. The Primorsky Dragoons cantered off toward Ta-Shih-Chiao in order to blow up some of the railway and thus prevent the Japanese from bringing troops into Yinkow by rail. To hear these officers talking lightly of riding over to Haicheng, Ta-Shih-Chiao and Inkow made one almost inclined to imagine that we were back in January, 1904, and that the fall of Port Arthur and the defeats at Ta-Shih-Chiao, Liao-Yang and on the Shako were merely dreams. I, for one, was inclined to rub

my eyes when I saw again, in the distance, the familiar hills of Ta-Shih-Chiao.

On the previous day a mixed detachment, composed of half a sotnia of the Chitinsky Cossacks, half a sotnia of the Verkhnyudinsky Cossacks and half a sotnia of the Uralsky Cossacks, had been despatched eastward with a good supply of perokylene in order to cut the railway north of Haicheng. They accomplished this task with the greatest ease and expedition. When they reached the railway line there were only a few Japanese there and these retired without firing a shot, whereupon the Cossacks proceeded to look for a bridge underneath which they might plant their explosives. Unfortunately they could not find any bridge, so they had to content themselves with blowing up part of the line.

A detachment of the Tersko-Kubansky reported that it had destroyed five hundred meters of the line at another point, and at four o'clock next morning a tremendous explosion from the direction of Tah-Shih-Chiao led us to conclude that a bridge on the Tah-Shih-Chiao-Yinkow line had been exploded. But this could not have been the case, for just before our attack on Yinkow two trains came through, probably from the south, for the line had certainly been seriously damaged in the vicinity of Haicheng—so much so that a train is said to have been wrecked there, and help could not, therefore, have come from that quarter.

At old Niu-Chwang we had another tussle with the Japanese. Fifty of them occupied a house there, and as we could not afford to waste time taking it we contented ourselves with making prisoners of two or three wounded officers—who, by the way, spoke Russian very well—and then pushing further north.

At old Niu-Chwang there was the usual litter of Japanese telegraph and telephone poles and wires and more than the usual capture of transports.

In fact, too much time was spent, I think, in burning these transports, which included clothing, kerosene, provisions and ammunition. Hundreds of cattle and sheep were also taken and driven before us. Every Cossack had a small bag of flour at his saddle bow and the Japanese must have found the tracking of him to closely resemble a paper-chase, for his route was marked by empty boxes of "Peacock" and other brands of cigarettes which the Japanese soldier loves.

On the night of the 11th there were no less than two huge fires reddening the horizon. They were Japanese transports on fire. We spent that night at the village of Hundyatun, twenty miles from Yinkow, and in the morning we set out with the determination of reaching our destination before sunset. We passed on our way still another flaming transport.

* * * * *

THE ATTACK ON YINKOW.

The country became richer as we approached nearer to Yinkow, the villages far more prosperous and the land even better cultivated.

I was under the impression that we were still at a considerable distance from Yinkow, when at about 4 P.M., boom! went a gun on the right, and a little cloud of shrapnel burst over a village which was situated, as I afterward discovered, a short distance in front of the Yinkow Railway station. Boom! boom! boom! went other guns,

and then came the dense rattle of a heavy musketry fire, and we knew that the fight had begun.

Early on the morning of this day a Chinaman whom we met at Hundyatun had told us that there were only three hundred Japanese soldiers at the Yinkow Railway station and that there were no soldiers at all in the town. Our leaders had then been of the opinion that a party of Cossacks would be sent to smash up the Japanese administration buildings while the rest of us were burning the stores at the station, but just before the fight began General Mishchenko communicated to his officers his plan of action, which was as follows:

The Japanese, who were found to be strongly intrenched in front of the station, would be shelled and then attacked by a mixed force composed of detachments from the Tersko, Kubansky and other regiments, amounting in all to about one thousand men. If this attack were successful the Japanese stores would be set on fire, and then the Russians would fall back as fast as they could. Fearing that indiscriminate looting and subsequent complications with foreign powers would take place if the Cossacks entered the town, the general forbade them to enter in any case.

Just as we approached Yinkow a train filled with soldiers rushed in from Ta-Shih-Chiao. It was made up of sixteen trucks, and calculating that each truck could accommodate forty men, it must have brought the strength of the garrison up to about a thousand; that is, it made them equal in strength to the attacking party, which had, therefore, of course, no chance, especially as the Cossacks were without bayonets and had no skill, anyhow, in attacking intrenched infantry. It is a truism to say that cavalry can do nothing against an equal force of infantry calmly lying behind earthworks, with their eyes on the sights of their rifles. Our Cossacks dismounted, of course, and advanced to the attack, sword in hand, but they suffered seriously from the Japanese fire and could make no progress.

Meanwhile the bulk of Mishchenko's force was held in reserve. I was with the Caucasian brigade on the left flank, that is, on the railway, where for some reason or other it was suspected that an attempt would be made to flank us. These suspicions were increased by the fact that a few shots were fired on this part of our line, but these shots were probably fired by isolated Japanese volunteers, or perhaps by our own scouts, who mistook one another for the enemy. Luckily, however, no harm was done—only two horses wounded, I think. But the fear of an enemy who was not there kept us close to the railway line until five o'clock, when the fight ceased.

THE ORDER TO RETREAT.

About half-past four a Chinese building in front of the station and another on the railway line burst simultaneously into flames, and many of us thought that the former building was the station itself, or, at least, some of the buildings in which the Japanese stores were kept. But the murderous fire of the enemy still continued and it was easy to see that we were making no progress. Just then an imperative order from General Mishchenko reached us. It was to the effect that we must at once retreat as quickly as we could to a village seventeen versts north of Yinkow, and we lost no time in doing so. There was not the slightest panic or disorder in our retreat, and I do not think that there was the slightest panic or disorder in any of the other detachments.

The general had evidently given himself an hour to do the work he had got to do at Yinkow, and had decided beforehand to leave directly that hour was up.

It was too dangerous to remain, especially with such a force as he had, made up of Kalmuks from the Don, Bariats from Trans-Baikal, and Mohammedans from the Caucasus—many of whom did not speak a word of Russian. If a night attack had been carried out these different parties might very probably have come into collision, under the impression that the other party was the enemy.

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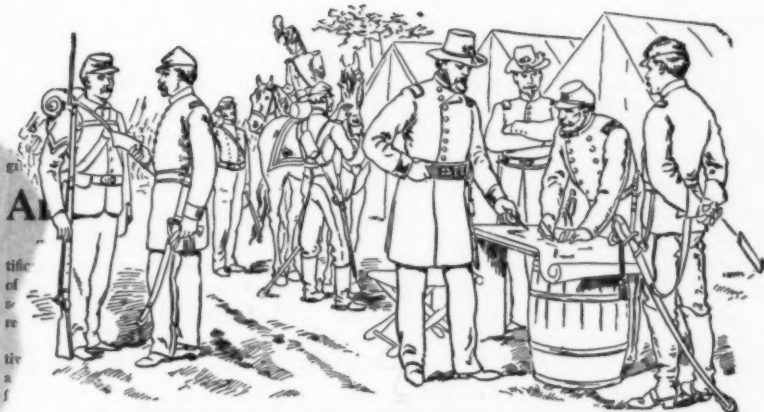
With the stores at Yinkow station left uncaptured, the success of the raid was incomplete. But the Cossacks feel proud that they have been able to penetrate so far south practically without loss. They will never be any great success at attacking infantry in intrenched positions, but that is not what they were made for—their business being to blow up railways, destroy transports, reconnoiter, scout, cut off detached parties and show a clean pair of heels when they find themselves confronted by infantry.

We heard next morning that 20,000 Japanese had assembled at Haicheng and were going to cut us off by establishing a network of infantry posts from that city right across to the Liao River, but neither the information nor the more startling news that a Japanese infantry force was advancing toward us from the east of Yinkow caused us to hurry in the least.

By eleven in the morning we still occupied that village, or rather, the surrounding country, for the village was just large enough to contain General Mishchenko's staff and no more, and were looking after our wounded and making preparations for our journey north. Before noon, however, the Caucasian advanced to the southeast covering the artillery, which had been ordered to shell the approaching infantry.

The infantry did not approach, however, so that in the afternoon Mishchenko marched due north with great rapidity, as if he intended to retreat the way he came. The Japanese probably expected that and had made every preparation to give him a warm reception as he crossed the Taitsze and Hun Rivers. But just when it seemed certain that he was heading direct for the trap that had been prepared for him the wily old Russian leader swung suddenly to the left and was on the west bank of the Liao before the Japanese could properly realize what had happened. Next morning the enemy had also crossed to the other side of the Taitsze, but Mishchenko made it hot for them from eight o'clock to nine with his artillery. Then he moved on until he reached the main Russian army.

FRANCIS McCULLACH.



Comment and Criticism.

"Our New Infantry Drill Regulations."

Major James A. Irons, General Staff, U. S. A.

In the article thus headed in your March-April number, the statement is made "that a little too much expedition was used," "that the result will be a host of requests for interpretation of certain paragraphs not clearly understood."

Possibly there may have been a little haste, but it must be borne in mind that there was a real necessity for expedition as the '91 Drill Regulations had been exhausted and there were many requests from the organized militia for copies of drill regulations.

There also will be hosts of requests for interpretations, but they will come principally from those who have not thoroughly mastered the details of the regulations. The present drill regulations are based principally upon the regulations of '91.

The changes are simple ones, and by comparison with, and knowledge of, the original work, it is not clearly understood why any misinterpretation should take place. Interpretations have grown to be a fad, which is encouraged by certain persons for their own financial benefit. Many of these so-called interpretations interpret wrongly, are not official, and should be avoided. For instance, referring to salutes, the following interpretation was published: A non-commissioned officer in charge of a detail would command "eyes right," men and himself at "right shoulder," he rendering the prescribed salute to *all officers* whom he met at saluting distance. By

referring to the first subparagraph 589, it will be seen that the sergeant would command "eyes right" if he met another armed body, the commanding officer, or the commanding officer's superiors; fifth subparagraph means "eyes right" is omitted, when the sergeant salutes an officer, not the commanding officer or the commanding officer's superior.

It is not understood why the permission given to instructors to go wherever their presence is necessary is conducive to lazy and indifferent drilling. In paragraphs 25 and 93, Schools of the Soldier and Squad, the instructors are placed under the supervision of an officer. In the company drill the lieutenants are under the supervision of the captain, and as the major is responsible for the instruction of his battalion (par. 246), he should supervise the company drill; likewise the colonel or lieutenant-colonel should supervise the majors when the latter are instructing their battalions. If this system of supervision is carried out thoroughly, there is no excuse for the same mistakes being repeated to the end and never corrected; and the perfunctory instructor should not be allowed to take his ease.

Paragraph 50 is same as paragraph 130, drill regulations '91. As there was no interpretation apparently needed for thirteen years, no change was made.

Paragraph 13 is a general principle applicable throughout the book and refers to men disarmed, as well as to those who are armed. When disarmed, there is no necessity for mentioning the execution of order arms; when armed, paragraph 54, 10th controls, and there should be no doubt in the mind of anyone.

One of the greatest aids to discipline is the manual of arms, as it, very early in the career of the recruit, requires from him the strictest attention to perform properly the different motions.

Why paragraphs 116 and 117 should have given such great surprise is not understood, when it is considered that the "turn" was the only method taught to a recruit in changing the direction of a squad line. By a reference to the regulations of '91, it will be seen that the "time-honored wheel" is not described to the recruit until he has taken his position in the company, it was probably the first movement he was ordered to execute, he had never heard of it, and previously had never been instructed in its details. Again, if a "turn" is a better movement than the "wheel" for a company or platoon, why not for a squad, especially as you eliminate the "wheel" which should otherwise have been taught in the school of the squad, at the proper time. There were other reasons for the change. The radical change of having a fixed distance between ranks, whether in line or column, which was approved by all who reported on the subject, is, to some extent, the cause for the abolishment of the wheel. With this distance it became necessary to discover some method of moving

the rear rank into position while the front rank was making the turn or wheel. The direct method of moving the rear rank into place was adopted instead of the indirect one of closing to facing distance and then falling back to proper position. This direct movement of the rear rank could be performed, whether the front rank wheeled or turned; with this condition, the wheel was not necessary and the time saved can better be devoted to other instruction. The file on the marching flank of the rear rank is compelled to take at least one step more than the file on the marching flank of the front rank; to enable the rear rank to gain its proper position and to move forward with the front rank, it became necessary to introduce the command "Full Step", which should be given immediately after the command "Squads Right, March", so that the second command of execution "March" can be given exactly at the same time the two ranks are in their proper positions and at the prescribed distance of forty inches. As a general rule, officers allow too much time between these commands when forming column of squads, and men are kept marking time when they should be moving forward or be at a halt. The same fault occurs when forming column of companies from column of squads.

One great advantage of marking time in forming line from column of squads is found in the great amount of time saved by not having to dress, in fact, some officers under the '91 Drill Regulations, for the purpose of securing a better alinement, were in the habit of instructing the men on the marching flanks to mark time, until halted or the command for the guide was given.

In paragraph 116 attention is particularly invited to the fact that the pivot "marks time" while *turning* (not *facing*) to the right, while in paragraph 117, the pivot "*faces* in marching" as explained in paragraph 36.

The necessity for the subdivision of a company into sections is distinctly stated in paragraph 319.

With the new rifle, loading is practically from the magazine, for the reason that the cartridges are to be issued by the Ordnance Department in clips of five, which makes the new rifle a magazine loader and practically takes from it the function of a single loader.

The "fire at will" takes the place of the magazine fire. The piece being loaded from the magazine, the "fire at will" affords as rapid fire as can possibly be desired, and troops not being charged are given opportunity to assist any neighbors several hundred yards distant. On other occasions the "fire at will" allows a very strong and effective fire.

There is nothing in the new drill regulations which prohibits the fixing of bayonets at any time during an action, even at 1000 yards from the enemy. In case, however, the bayonets are not fixed at

time rapid fire is commanded, then it is compulsory that the bayonets be fixed. The drill regulations in no place direct that the command "Charge Bayonets" be given on the arrival of troops thirty yards from the enemy. The command "Charge" will probably be given by drill signal (36-charge) on the trumpet.

The single rank idea found expression from the fact that in the reports made by officers of the army on the '91 Drill Regulations, a large number advocated exactly what is set forth in the revision.

To form company in column of squads into line of squads with center or other squad remaining on the line of advance (par. 228) is not deemed a mistake, as it allows a line to be formed rapidly when a column of squads is about to leave a defile and it is desired to form a line covering both flanks of such defile. For this purpose it is deemed superior to any other method given.

The method spoken of as having been used in the Philippines is simply the practical application of the movements presented in the text, and there would be much confusion and more interpretation if the text attempted to authorize particular, or to give all the practical, methods of applying the movements in the text.

In the evolutions of the regiment, an attempt was made wherever possible to frame the commands of the colonel so as to allow the use of trumpet signals as much as possible, since there are very few officers who have sufficient voice to make themselves heard by a full regiment in line. By using an orderly or trumpet signal, there is very little necessity for giving commands orally. In mass formations, oral commands can be readily heard and understood.

When using a trumpet there is no necessity for giving the drill signal "Battalions" as the signal "Halt" will suffice, especially as it indicates to the majors the movement to be executed and the commands of the latter determine the execution by the men in ranks. (Par. 351.)

The trumpet signal "To the Rear, March" is apt to be better understood by the major than the trumpet signal "Squads Right (left) About, March." To secure uniformity when this signal "To the Rear" is given, the squads always turn to the right about and never to the left about. If absolutely necessary to turn to the left about, there could be no objection to using the signal "Squads Left About, March."

By observing third sentence, paragraph 351, and remembering that the signals and commands are for the majors, the colonel, by first indicating the base battalion, enables each major to carry out the previous rules. For instance, if the signal were "Forward, March" "Guide Right," the major of the base battalion would probably have to give the commands "Forward, March" "Guide Center", instead of "Forward, Guide Center, March." In other words, where the drill

signals could be used the commands were fixed with respect to the use of the trumpet rather than to the employment of the voice.

The difficulties found in paragraphs 376 and 383 do not exist. By referring to paragraph 376 and applying plate 62 (par 315) instead of plate 66 (which refers to the movement *from line*), it will be seen that being in column of squads to form "Column of masses to the right" and to form "Line of masses to the right", that the rear companies in both cases incline to the left, and when formed they (in both cases) face to the original right. It is thus seen that there is no inconsistency and there cannot possibly be any controversy about these movements except when they have not been carefully studied. The "column of masses" and the "line of masses" are not formed directly from line. The line is first formed in "column of squads."

The word "echelon" is used exactly in the same sense as it was in the previous regulations. As its meaning and use are distinctly laid down in the definitions, the object of the criticism is not understood.

The regulations for tent pitching, perhaps, may not be considered the best by everybody, but they possess the feature of uniformity which was formerly sadly lacking, as often in the same regiment no two companies had the same method. This variation was very perplexing to the National Guardsmen when associated with the Regular Army.

Some complaints are heard about the omission of the movement "Right Forward, Fours Right," especially from officers who in street parades were compelled to suddenly reduce the front of a command and were practically prevented by the crowds, etc., from executing paragraph 183. The crowd was an obstacle and paragraph 277 might have been applied by cautioning the right (left) squad to move to the front, and then giving command "Squads Right (left), March," etc.

ST. LOUIS, MISSOURI,

MARCH 31, 1905.

"Military Hygiene."

Colonel John Van R. Hoff, Assistant Surgeon-General.*

Mirabile dictu a line officer has written convincingly on the necessity for the theoretical teaching to line officers of the "care of troops," for so Parkes defines Military Hygiene. Captain Traub's prize essay is a lucid exposition of how the teaching of military hygiene may be introduced into our military schools, and especially at West Point, of which justly renowned institution he has an intimate knowledge gained from the standpoints of cadet and instructor, and

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his conclusions demand the thoughtful consideration of every lover of his kind and country. Before entering upon a discussion of the points made by Captain Traub, it might be well to glance at the history, and consider a definition of military hygiene.

That military men should know these would seem to go without saying, yet I venture to say that to many officers the very meaning of the term military hygiene is unknown, and for this the Military Academy is directly responsible, because this Institution has thus far determined the scope of military education in our country.

It is not to be doubted that the "care of troops" as an art, must have received consideration from thoughtful officers from the earliest days, but so far as known a systematic study of the principles of military hygiene has but recently become a recognized part of a military education. Parkes' great work, first published scarcely half a century ago, and almost contemporaneously the works of Roth and Lex in Germany, Morache, Boudin, Michael Livy and others in France, and Hammond with us gave an impetus to scientific investigation into means of preserving the health of soldiers which, as shown by statistics, has produced remarkable results. These works were the direct outcome of the war in the Crimea, where Lavaran states "the allies lost 52,000 men in six months, of which number 50,000 were unharmed by the Russians."

Military hygiene, the art of preserving the soldiers' health, treats of the principles which should govern in the selection and development of the recruit; the personal care of the soldier, his ration, the water he should drink, his clothing, the air he breathes, his various habitations, their interior economy, heating, lighting, scavengering, etc., his life in campaign, and finally the prevention of infectious diseases to which he is subject.

Certainly no one can deny that a deep knowledge of the foregoing subjects is a considerable asset in any officer, and should cut a large figure in determining his value to the country.

While a knowledge of military hygiene is important to every military officer, no matter what his office or grade, it is vital to three classes: 1st. To general officers, for they must be able to weigh the sanitary against the purely military requirements, and give to each its due value.

2d. To line officers, for it goes without saying that the care of troops is an essential part of their business, and this care, if efficiently administered, demands an adequate knowledge of the principles and practice of military hygiene. The line officer is the sanitary executive.

3d. To medical officers, whose most important function is that of sanitary expert, but whose relation to military sanitary matters is purely advisory. The medical officer's education in the principles of hygiene should be all-embracing; he must know the causes of diseases

and their remedies. Such attainment demands a knowledge of the fundamental facts of physics, chemistry, anatomy, physiology, and bacteriology; he must have all the practical knowledge of the line officer beside all the theoretical knowledge which would fit him to advise the line officer should the latter encounter sanitary problems the solution of which demands deeper sanitary knowledge than he possesses. In a word, the medical officer is the sanitary specialist and the line officer the general practitioner.

Having briefly stated what military hygiene is, and whom it chiefly concerns, I will now consider the essayist's recommendations as to the enforcement of its study in our military schools.

What Captain Traub writes as to the entire practicability of giving military hygiene a definite status at the Military Academy, seems to an outsider to be absolutely unanswerable. Nothing that I can say would strengthen his argument, and it needs no strengthening, but if it did, it would find it in Professor Tillman's words: "During the first three years of the academic course at the Academy, the two departments first named (mathematics and philosophy) occupy the cadets on an average of four and a half hours daily for 607 days out of a possible 660 academic work days. While only a fraction of this time and labor is for purely disciplinary purposes, the total time is so great that it may well be asked if for a large number of cadets the disciplinary fraction of this labor could not be better devoted to other purposes." (JOURNAL MILITARY SERVICE INSTITUTION, Vol. XXXV, page 8.)

While the course in hygiene at the Naval Academy seems to have a graded standing—and counts for graduation—its value and influence have been largely determined by the enthusiasm of the instructor, who as surgeon of the command has many other and more arduous duties to perform. Of the course at the Naval Academy, Surgeon Beyer, U. S. N., says: "So far as teaching hygiene and physiology is concerned at Annapolis, it is true I was, perhaps, the first to start that chair with the intention of making it a sort of undergraduate course in hygiene, based on such experimental knowledge of physiology as we could teach the cadets. The point is right here—while attempts have been made, and have been continued ever since I left the Academy in 1896 to carry out this course, there is no law requiring this instruction. It is optional, and it is apt to change with every new change of superintendent. It is not uniform, it is not continuous, it is not fixed. The subjects taught are more or less optional with the professor; he is at liberty to teach what he likes. The subjects are not sufficiently fixed; there is a looseness, a laxness about the chair which makes me place very little faith in it now. Some legislation is necessary so that when a new superintendent comes he will not be able to make these changes. At

present we have no means of stopping him. He might annihilate the whole chair, and it has partly been done." (Journal Association Military Surgeons, Vol. XV, page 379.)

The status of military hygiene in our two great intermediary military schools naturally provokes an inquiry as to causes, for it is hardly to be presumed that the importance of a theoretical knowledge of the care of troops is not appreciated by the academic authorities.

It has been said that the teaching of military hygiene is the function of a post-graduate institution and has no place in an intermediary school—whose function is "teaching, developing and character forming." But why could not military hygiene be used to this end in the place of purely disciplinary studies to which Professor Tillman states so much time is given? Surely the cadet should be taught his drill and personal care (hygiene) at the same time, and he is. He learns the former theoretically from the book and practically on the drill ground as well—but the latter comes to him through custom and a code of regulations, the reasons for which he does not know—though these reasons constitute the sum and substance of military hygiene.

Again others, who do not recognize "the care of troops" in its more pretentious title, military hygiene, are theoretically content to relegate the whole subject to the medical department, until it comes to concrete cases—when they will do as they please and we will shoulder the blame. Still others are beset with the inertia of custom and can see no reason for teaching anything that has not heretofore been taught. Finally, most of those who are graduates of these fine institutions are apparently disinclined to have any one on the academic boards who is not an alumnus.

While undoubtedly military hygiene owes its present scientific form to army medical officers, and it is quite natural that they should be looked upon as the exponents and teachers of this science—surely there must be some among our hundreds of line officers sufficiently interested in the "care of troops" to study it as a science as well as practice it as an art. Certainly if some of our line officers have found time and inclination to make themselves lawyers, engineers, mechanicians, electricians—*id genus omne*—at least a few others with taste in that direction, which our essayist evidently has, might specialize as military sanitarians and, by their example and writings impress their fellows of the line as he has done, with the fact that a knowledge of the scientific care of troops is an essential part of an officer's education.

The inclusion of military hygiene in the curriculum of the garrison schools in the general scheme of education promulgated in G. O. 115, series 1904, W.D., it is believed was done at the suggestion of the writer, approved by the staff of the General Service and Staff College.

But the recommendation was not accepted in its entirety—for it contemplated adequate instruction in this important subject beginning with the first year of the garrison school and continuing in the service schools, through the Staff College.

It is gratifying to observe that this is what our essayist recommends, and even more, for he demands the recognition of military hygiene by the War College as well. What he says regarding the inadequacy of the present course needs no comment.

The very complimentary remarks by Captain Traub on the course in military hygiene in the Infantry and Cavalry School, which course the writer has the honor to conduct, are consolatory, but not wholly deserved. That the course is not all it should be, we flatter ourselves, is not the fault of the Academic Board, but is due to the fact that thus far military hygiene having been taught in no other school for line officers, we had to begin at the very foundation of the subject. In a word, we are forced to give a high school rather than a university course. The scope of the course is best illustrated in the subjoined examination problems which I insert at the risk of excluding more valuable matter:

I.—You are detailed to examine and muster into the United States service a regiment of volunteers; your medical assistants are from civil life, and unfamiliar with the regulations governing the physical requirements of a recruit. You happen to be without a copy of the recruiting regulations, but must begin out work at once.

Write out a brief summary of requirements of a recruit; instructions to govern the examiners, covering the method of examinations, age, physical proportions, the principal causes for rejection, and what the examiner must record.

II.—As a member of a uniform board appointed to consider the whole question of military clothing, you are especially assigned to consider and report to the board upon the materials of which military clothing is made, their kind, color, advantages and disadvantages.

Write a memorandum covering what you would embody in such a report, giving reasons for your conclusions.

III.—A separate brigade recently recruited, of which you are acting chief commissary, has been cut off from its base of supplies, and must expect to live upon the country for some time. Cattle, sheep and hogs are obtainable, also corn, flour and potatoes. The brigade commander directs you to submit an estimate of the amounts and kinds of available food the command would require for the maintenance of health and efficiency. As a basis of this report, write out memoranda covering:

- (a) Food classification.
- (b) Nature and function of each class of food.
- (c) Daily proportionate parts of each class of food required by the individual soldier.
- (d) State what articles of food and the quantity of each per day you would recommend to cover these requirements.
- (e) Also write down suggestions for the management of the ration so as to give variety and promote contentment.

(f) The ordinary method of selecting and cooking beef.

(g) The selection of flour and its baking.

Note: No tables need be given in the solution of this problem.

The following data are available:

100 parts of	Water.	Albuminates.	Fat.	Starch.	Waste.
Beef.....	63	20	17		
Mutton.....	55	18	27		
Pork.....	56	17	24		
Corn.....	13	7		78	2
Flour.....	11	12		71	6
Potatoes.....	78	2		18	2

V.—With reference to the barracks mentioned in the previous question (IV), discuss the following subjects: ventilation; dangers to health from inadequate ventilation; disposal of products of respiration and combustion; air and floor space, fresh air required and how obtained.

VI.—In connection with the construction of a post, state what are the various ways of disposing of excrementitious and other waste matters, which you as quartermaster might have to consider, and give a description of each.

VII.—What consideration should govern you, as quartermaster, in providing a water supply for a post; sources, quantity, quality and probable contaminations being considered.

Describe some of the more dangerous contaminations, the simple methods of detecting impurities; and also some ways of purifying water.

VIII.—What would be your responsibilities as a company commander, regarding the personal sanitation of the men of your company? State what instructions you would give them in the matter of cleanliness, clothing, pack, habitation, bed, food, water, sinks, care of feet, habits and amusements.

I believe that anyone who reads the foregoing* will conclude that nothing was required in this examination that should not be known by all officers as the very foundation of their military education, and if such is not generally known, the opportunity to acquire this knowledge—and to practice the precepts flowing therefrom—should be given every officer, for without it he is by so much a handicap to the service.

Important as is a theoretical knowledge of the scientific care of soldiers to those of the organized forces, who learn their sanitation through daily precept, and usually practice it successfully, how much more important is such knowledge to our so-called "military resources," the civilian of to-day who may become a soldier to-morrow.

The average of our enrolled forces in all wars is 550,000, and it is not to be expected that in any future war we will require less. Of this number we would have in the Regular Army and navy about 150,000, most of whom would have learned military hygiene by rule of thumb. By what rule would the remaining 400,000 learn it? Under

*Questions IV, IX and X on this examination sheet are referred to in General Woodhull's paper *ante*, and are here omitted.

present circumstances by the same rule, and in the process of learning would be repeated the old, old story that each war has told of fever camps and needless sacrifice to preventable diseases.

If there were no other reasons for the theoretical study of military hygiene by the regular establishments than an example to our unorganized resources, which of course no intelligent man will concede, this would be enough, for certainly these will not take the trouble to study the care of troops unless we of the regular establishments set the example.

What Captain Traub says of the teaching of military hygiene in the civil schools throughout the country to which army officers are detailed as instructors, touches upon one of the most important features of the whole subject. It is the people who will do the fighting when fighting is to be done, and if they are to learn the soldier business they must learn it theoretically, for we are a nation in arms only when the war is on, and the recruit, trained at the desk, the counter, the anvil, or the plough can have no knowledge of right military living unless he learns it *theoretically*.

Military hygiene should be taught in every civil school for boys; medical colleges should take it up, and it should be made a compulsory study in all public schools.

The essayist makes a strong appeal to the women of our country, God bless them! to help to disseminate a knowledge of military hygiene among their husbands, brothers and sons. If they will do this during peace times, then will their hearts not be wrung in war times by the needless sacrifice of dear ones to the Moloch of preventable diseases.

Captain Traub's suggestions as to the promotion of the intelligent practice of military hygiene in our service are interesting and worthy of comment, but I fear I have more than exhausted my share of space, and will close this *critique* by congratulating the essayist upon his valuable and timely paper.

FORT LEAVENWORTH, KANSAS,
February, 1905.



Reviews and Exchanges.

Military Government and Martial Law.*

THE author, in his original work, written after careful consideration and study of the laws, precedents and decisions relating thereto, classifies "Military Jurisdiction"—outside of military law—into "Military Government" and "Martial Law"; the former as including all that pertains to the military administration of affairs in conquered territory of a foreign enemy, or in territory within the State occupied by subjects in a state of rebellion and recognized as belligerents; and the latter as prescribing the forms of military administration, and laws governing it, in domestic territory where, for the time, the civil authority has been overthrown through resistance to law and the prevalence of disturbance and disorder beyond its power to quell. He puts military government within the domain of International Law and the laws of war, while designating martial law as within the cognizance of municipal law.

He thus gives a distinct place to each, with a more definite meaning to the term "martial law," which has heretofore frequently been used as a general term, sometimes as synonymous with military government and sometimes even with military law.

Taking the decision of the Supreme Court in the celebrated Milligan case as one of the greatest importance, he apparently finds the opinion of the minority upon the subject of martial law most in accord with his own. He believes that while martial law is in force civil courts may exist alongside military tribunals, protected by the military force or martial law, but nevertheless under martial law because they exist only by its protection; that martial law exists not as a constitutional authorization, but as a necessity to the existence of national life; for if the civil authority is overthrown and unable to enforce the edicts of the Constitution and the laws made under it, and there is no other power to maintain it, anarchy would result and all government would cease.

He illustrates his views by cases such as that in which General Scott established (what was in reality) martial law in the city of Bal-

**Military Government and Martial Law.* By W. E. Birkhimer, LL. B., Major, General Staff, U. S. A. Second edition. Kansas City and London: Franklin Hudson Pub. Co., 1904.

timore, in June, 1861, where the civil courts were in undisturbed operation, and continued so, but under the authority of martial law; and he justifies the situation by the fact that while there was no open rebellion, the civil officials were actually in active sympathy with the rebels, and there existed in the then condition of the municipal government a danger as formidable to the National Government as was presented by the enemy's army in the field.

Likewise in Kentucky, during the Civil War, martial law was justified by the fact that the civil authorities of the State, including the judiciary, could not or would not, frustrate the treasonable designs of the enemy. These are not only examples of martial law declared while civil courts are in operation, but also come under the minority opinion of the court as cases of "justifying and excusing peril" which justified the President in his declaration of martial law.

He maintains that the whole subject of martial law, when instituted by Federal authority, must be determined in all its details by the President and his subordinates; that the troops are present to compel obedience to the supreme law of the land; that there must be confidence in these officials and in their integrity; and if that confidence is misplaced or the authority misused, there is a remedy in the power of impeachment, and in the responsibility of subordinates before the civil courts.

The author is well qualified to consider these questions from the fact that he is not only a lawyer, but a soldier of experience, endowed by character and education with a clear method of thought and positive opinions which he expresses in distinct and precise language, and from the military point of view. There can be no mistaking his meaning, and he gives his reasons and the authorities justifying his conclusions.

His exposition of the history of military government and the development of the war tribunal—the military commission—and also of the events requiring the establishment of martial law in domestic territory, and of the questions which have arisen under each, with the authorities to which he makes reference, is especially valuable to the student of martial law, military government and the laws of war.

As the present Judge-Advocate General of the Army has said: "The original work is the most complete treatise on the subject in the English language, and embodies the views which prevail in Anglo-Saxon countries on the subject of martial law and military occupation."

The real value of the work, and its true place in our system of military jurisprudence, was fully established during the period of military occupation which succeeded the Spanish-American War, and by the results of events which have happened in domestic territory since 1892, the date of its first publication.

To those officers of the army who had to do with matters of administration of civil affairs under military government, or with the subject of military tribunals in occupied territory under the laws of war, it was a most valuable book of reference and authority for the conduct of affairs which were most perplexing; and it was especially appreciated by the American army commander endowed with the powers, duties and responsibilities of military government, in situations often unusual, unexpected and without precedent in our history.

In the course of the events following the Spanish-American War,

and in the domestic troubles which have arisen since the first publication of this work, there have developed new questions, and there have been new decisions of the courts rendered, affecting the status of the army and the duties and responsibilities of its officers under those conditions, largely sustaining military authority and upholding the views maintained by the author.

It would be impossible, in any short space, to enter into the special conditions existing in Cuba, where there was a military government, pure and simple, administering civil affairs through the medium of the form of a civil government under military authority, in Porto Rico and in the Philippines, where the military government was continually compelled by insurrections and uprisings to maintain its authority by force of arms; or to do more than refer to those events occurring in domestic territory, such as the Chicago affair of 1894, and the position taken by Attorney-General Olney and President Cleveland therein—the later troubles in Colorado where recently the courts sustained the power and authority of the governor in the use of troops to suppress disorder, etc.

All these have been considered in the revision of his original work. This work will be found interesting not only as a book for reference and use in questions of military government and martial law, but also for its historic value in its treatment of events occurring during the service of our armies in Mexico, in Cuba, and in our insular possessions.

No army officer expecting to serve in those possessions, or hoping to be well equipped in the knowledge of the laws of military occupation, the laws of war, and the administration of affairs by military government, or in the execution of martial law in domestic territory, can afford to dispense with possession of this book.

March 15, 1905.

EDGAR S. DUDLEY.

Forty Years of Active Service.*

THE most recent contribution to the literature of the Civil War is to be found in the first twenty chapters of Col. O'Ferrall's book. The title is somewhat misleading to the military reader, whose conception of the term "active service" is specific, while but a minor portion of the author's reminiscences, measured by years, demands mention in this publication. In the pages under consideration, those who may happen to be familiar with the events described will find "a round unvarnished tale," delivered in terms of soldierly frankness, and considering the point of view of the writer, in admirable temper, on the whole. The narrative derives interest and value in that the narrator has, for the most part, abstained from the consideration of matters lying outside of his ken, confining himself to the relation of those in which he was a participant—*quorum magna pars fuit*—digressing only in so far as has been rendered necessary for the preservation of the context and continuity of the story.

There is much to interest the Confederate reader in the recalling of several figures of prominence in the earlier stages of the great conflict, but whose images have become obscured by time, or have dwindled in perspective as compared with later comers upon the scene—"so runs the world away." We had almost forgotten Ashby—the *preux chevalier* of the young Confederacy when Stuart

**Forty Years of Active Service.* By Charles T. O'Ferrall. New York and Washington. The Neale Pub. Co. 1904.

and Hampton and the Lees had still to win their spurs—but he lives again in Colonel O'Ferrall's story, and prances before us on his milk-white charger. Of interest, too, is the list of officers who attained high rank while still easily within the age limit recently prescribed by Dr. Osler, averaging between 31 and 32 years.

Colonel O'Ferrall adds another leaf to the record of the first great mounted combat of the Civil War which, perhaps, deserves quotation—known alike as Beverly Ford or Brandy Station.

* * * * *

As soon as our brigade could rest and recruit its horses in the clover and blue-grass fields of Augusta, it joined the cavalry corps under Stuart, in the Piedmont section, and we had plenty to do, and had many skirmishes, leading up to the sanguinary field of Brandy Station on June 9, 1863. This was, perhaps, the most famous almost strictly cavalry engagement of the war. It was cavalry against cavalry—a carbine, pistol and sabre combat, with only a little artillery firing in the early morning, and an occasional cannon roar during the day.

On the day before, our cavalry corps had been reviewed by General Lee, the day was ideal and the ground as suitable as could have been desired. The appearance of General Lee as he rode in review with General Stuart, with Stuart's black plume waving like the white plume of Henry of Navarre, aroused the enthusiasm of the corps to the highest pitch, and prepared them for the bloody struggle of the next day, though we had no idea that it was to occur; yet at that time we were ready for anything, not knowing when we lay down at night what the breaking of the next morning's dawn would bring.

General Stuart had adopted a system of having a regiment from each brigade on what was termed "grand guard" while lying in camp; that is, the horses were kept saddled and bridled, and the men by them, day and night, so that the regiment could move at a moment's notice in case of an emergency.

On the evening of the review, June 8, my regiment, the Twelfth, under Colonel Harman, its colonel, went on grand guard, and we all lay down that night by our saddles and bridled horses, with our boots on and sabres and pistols buckled around us, and our carbines by our sides, with nothing to do in case we were called up but to strap our blankets on our saddles, mount our horses and fall in line.

On the ninth, before the sun had risen high enough to reflect its rays upon our camp, the sound of a cannon was heard in our front, in the direction of Beverly's Ford on the Rappahannock. Instantly our regimental bugle sounded the call to mount, the men sprang out of their blankets, and I am sure in less than ten minutes the regiment was in line awaiting orders. A fellow in the line remarked that such an early rising was not good for a man's liver, but we would knock the livers out of the disturbers of our rest as soon as we could get at them. We did not have to wait long for our orders. They came to us by a courier, from General Jones, mounted on a fleet-footed thoroughbred, and they were to quickly move to the front, which meant to Beverly's Ford. The enemy's cavalry had crossed the Rappahannock during the preceding night and were advancing. Colonel Harman led his regiment in a trot and gallop until he discovered the enemy's cavalry in a piece of woods beyond an open and clear field three or four hundred yards in front. He ordered me to deploy my squadron, the First, Company B. (Lieutenant Rouss commanding) and Company I, my company, and advance upon the woods, telling me he would support me with the remaining four squadrons of the regiment. I obeyed his command and moved my skirmish line over the open space. The enemy made no demonstration until my line was almost within the edge of the woods, when they let drive a galling fire, checking my advance, killing and wounding several of my men and horses. At the same time they rushed upon us as thick as angry bees from a hive when stirred. But Colonel Harman was up with the other four squadrons of the Twelfth, and the fight became close, fast and furious; but being in far greater numbers they drove us back to a hill in the field, where reinforcements came to us, and we drove

them back to the cover of the woods. Several times was this repeated. We would drive them into the woods and then they would rally and drive us to the hill. For hours this seesawing was kept up. Finally, after we had driven them the fourth or fifth time to their rallying point, they showed no disposition to charge again, and we fell back to the hill. As may well be imagined these various charges and counter-charges were not without heavy cost to both sides, and no decided advantage, so far as we could see, had been gained by either. Lieutenant Randolph was severely wounded—a fearless officer. We held our line on the hill for some time—how long, I could hardly approximate—I think, however, as late in the evening as three or four o'clock.

While we were fighting—and, in fact, while we were sitting on our horses on the hill, waiting—fighting was going on to the right and left of us. But the enemy had disappeared from our front. Suddenly we were ordered to the rear, and the speed at which our colonel was leading us satisfied me that we were badly needed somewhere, but where I did not know nor have the slightest conception. When we had gone some distance we saw a Confederate officer sitting on his horse by a piece of artillery on elevated ground, waving us on; we quickened our already rapid pace and soon reached him. I was riding at the head of my squadron, the First, which was the head of the regiment, with the colonel. The officer pointed out to us two regiments of cavalry drawn up in columns of squadrons, evidently waiting for us; they had no doubt seen us approaching from some point, as the country was entirely open and unobstructed. Forming squadron front we charged; the Federal cavalry also charged. The two forces met; sabres flashed, crossed and clashed, pistols rang. In a few minutes White's battalion, led by its dauntless and intrepid commander, Col. E. V. White—who is still living, an honored and esteemed citizen of Leesburg, came with a rush, and the result was the Federal force sullenly withdrew, leaving us in charge of the field.

It was a drawn battle—neither had a victory, neither could claim any decided advantage. Both sides had won trophies for gallantry and courage; each had proved itself worthy of the other's steel.

* * * * *

In a work whose scope and purpose is reminiscent rather than judicial, it is, perhaps, hypercritical to expect absolute statistical accuracy, and some of the author's figures have been the subject of cavil. The relative numbers in the opposing ranks in the Civil War will probably, in view of the absence of definite Confederate returns, always constitute a moot question. There is not space within the compass of this notice to go into the arguments in the case. Colonel O'Ferrall is too valiant a Confederate, perhaps, to take strict account of the Tybalt who "fight by the book of arithmetic." In this connection, an utterance of General Lee may be worthy of note: "We shall never be able to make the world believe the odds against which we have fought."

The narrative is enlivened, though not enriched, by the importation of some remarkable "Joe Millers" in the way of anecdote, which could have been spared. We have come to look for the yarn of the fugacious "cottontail," which, in one guise or another, is served up in almost every book of war experiences—albeit it never gets beyond the initial clause of Mrs. Glass' oft-quoted recipe.

A. C. R.

The Story of the Congo.*

SETTING forth in a complete manner under convenient sub-heads the writer of this book has given to the American public an account of the organization and methods of the forces used by King Leopold in his efforts to civilize the Congo Basin.

The steps which lead to the equitably ruled Free State as it is to-day were, first, the International Geographical Conference held in Brussels in 1876, then the International Association for the exploration and civilization of Central Africa, the direct result of that conference, and then the Congo Free State as recognized by the Conference of Berlin in 1885. These are described in detail and are of great value to a student of this subject, but to a military man the most interesting portion of the work is, perhaps, the record of Belgian exploration in the early days, the description of the methods used to repress the Arab slave raiders and the story of the organization of the native army.

Mr. Wack's book also sets forth the unselfish motives that led King Leopold into the enormous task of civilizing his colony of 1,000,000 square miles inhabited by 20,000,000 people, and the book contains a description of the wonderful improvements that have been made in the lives of the natives, aided by the State system of medical supervision, the careful administration of justice, the establishment of missions, schools, railways, roads and postal telegraph and telephone services.

The author's arguments, used to convince the reader that every action of the Belgians was open and above-board, are well written and he substantiates the points made by abundant documentary evidence; but although it is plain that the writer is entirely disinterested and that the writing of the book was a self-imposed task, still one may have his interest so awakened by the statements made by Mr. Wack that, as there is another side to the story from an American, British or German standpoint, one may feel that a further study of the subject might well show that there are grounds for believing that King Leopold did not act wholly with the sublime honesty of purpose that Mr. Wack would have the reader believe.

The charges made that the Belgians with their newly-organized force of cannibal soldiers have treated the natives with great cruelty reminds one of the baseless stories which were circulated about the action of our forces in the Philippines a short time ago, and Mr. Wack amply refutes such allegation.

To a soldier who may be called upon to serve in some uncivilized country, this book is of great value and interest.

W. H. J.

Tactics for Beginners.†

THIS excellent treatise, the outcome of the author's work as instructor in tactics at the British Military Academy (for infantry and cavalry), has reached its third edition within five years after its original appearance, a sufficient indication of its value to the British Army.

**The Story of the Congo Free State.* Social, Political and Economic Aspects of the Belgian System of Government in Central Africa. By Henry Wellington Wack, F. R. G. S. (Member of the New York Bar). With 125 illustrations and maps. New York. G. P. Putnam's Sons. \$3.50.

†*Tactics for Beginners.* Major C. M. DeGruyther, D. A. C., Late Instructor in Tactics at the Royal Military College, Camberley. Third edition. London: Gale & Polden, Ltd., 1904.

The method of treatment of the subject is simple, but also accurate and thorough, so that it is not only suitable as a text-book for cadets, but also constitutes a useful manual for study and reference for officers of all grades. Moreover, having been carefully brought up to date, the work has practically displaced the older treatises on the subject, and having been adopted as the text-book at the Royal Military College, it has naturally been taken up by the army at large.

The contents of this work are similar in character to those of most of the text-books on the subject. After a brief chapter on organization, and some clear notes on the relations of time and space, the author discusses the important subject of outposts in a thorough and very practical way, without too much detail, yet presenting all the important and essential elements.

The subjects of marches, advance and rear-guards, reports and reconnaissance are all treated in a satisfactory manner. What impresses the reader or student particularly in these chapters is the *system* of arrangement and treatment, the *subdivision* of the chapters into distinct sections, and the *summaries* of principles or important points to be brought out, all of which tend to increase the value of the manual both for study and for reference.

One of the most useful and interesting chapters (and one which is an entirely new addition, appearing for the first time in this edition) relates to the evolution of tactics since 1866, and brings the subject-matter down to include the early part of the war now in progress in the Far East. The tactics employed in the various campaigns referred to are clearly described, and the lessons to be learned from each are fully enumerated and intelligently set forth.

Besides the chapter on the present tactics of the three arms, separate and combined, there are special chapters on night operations (which appear to play so important a part in the Russo-Japanese War), savage warfare and convoys, as well as the attack and defense of villages, woods, rivers and defiles.

The diagrams are comparatively few and simple, but clear and adequate.

The volume is well printed in large, clear type on heavy paper, and neatly and substantially bound.

The work, as a whole, is a reliable text-book on the subject, and can be read with profit by all officers.

J. P. W.

The Lincoln Cavalry.*

THIS volume describes in detail the varied experiences of the first volunteer cavalry organization of the War of the Rebellion. The way it came into existence is interesting, and suggests similar experiences thirty-seven years later.

From a meeting held April 19, 1861, began the efforts of Ezra H. Bailey (later Major), who, acting with Col. Carl Schurz (the first officer authorized by the Secretary of War to raise such a regiment) and Maj. Phil Kearney, secured Andrew T. McReynolds as colonel. With a company recruited in Philadelphia, one in Syracuse, and one at Grand Rapids, Michigan, the main part of the regiment was re-

**The First New York (Lincoln) Cavalry.* By W. H. Beach, A. M., First Lieut. and Adjutant. Published by "Lincoln Cavalry Association," New York. 1902.

cruited in New York and put under canvas at Elm Park, Eightieth Street, New York, that summer. The German companies did not fraternize very well with the other companies and the regiment was divided between two camps.

The Philadelphia company was sent to Washington, July 22d, and on August 18th made a reconnaissance, and meeting some Confederates near Mt. Vernon, the captain charged the enemy, who after firing one volley fled. This is claimed to be the first charge of Union Volunteer Cavalry.

A week later the nine companies in New York, after public ceremonies and a proud march down Broadway, embarked at Cortlandt Street, reaching Washington on the 27th, and by September 10th the last of the twelve companies reported. January 1st the President commissioned the colonel. The other officers were commissioned by the governors of the States from which they came.

The first officer who fell was Lieut. Henry B. Hidden, who bravely led a dash with seventeen men at Sangster's Station, March 9, 1862. April 19th the regiment embarked for the Peninsula; it was divided up among corps commanders, and participated in the campaign, but apparently, as the record shows, in no way to create among them a very high regard for General McClellan. The casualties were twenty-six (four fatalities) to this point.

That fall they did duty in Maryland and the mountains of West Virginia and Virginia; casualties forty, fatalities to the end of the year, three.

In 1863 the events in which parts of the regiment participated number seventy-eight, the principal being Winchester, June 14th and 15th, when two officers and fifty-three men were lost, as missing, out of a casualty list of sixty-three. Corporal Rihl is said to have been the first Union soldier who fell on Pennsylvania soil; he was killed June 22d, about five miles above the Maryland border, near Shippensburg.

The events of 1864 number nearly one hundred, and the casualties principally at Newmarket, in May, were about 250, chiefly in the column of missing.

The book will be mainly interesting to the participants and their descendants. Fragmentary duty of the detachments makes the record of slight value in the way of elucidating any of the campaigns. The opportunities for personal bravery and indefatigable toil which came to the cavalymen, as this regiment was used, apparently gave it a wide and favorable reputation.

The book is embellished with many photographs of the officers and men, but has no index.

C. E. L.

Effects of Tropical Light on White Men.*

IN "Effects of Tropical Light on White Men," by Major Charles E. Woodruff, Medical Corps, U. S. Army, the author presents a volume which, filled as it is with technique and scientific deduction, fills a heretofore wide gap in our knowledge of cause and effect regarding human adaptability to conditions and bodily ills, and presents much matter of interest not only to the medical profession, but to the anthropologist, the ethnologist, the statesman and historian, and

**Effects of Tropical Light on White Men.* By Major C. E. Woodruff, A.M., M.D., Surgeon U. S. A. New York and London, Rebman Co. 1905.

withal is not too technical to be of absorbing interest to the layman, especially to all persons who for any reason may be obliged to reside in the tropics, as the following quotations indicate:

"Man's intelligence permits him to appreciate the dangers of a climate and avoid most of them by proper protection, so that he survives longer than other forms out of their zones, even as long as two generations in the case of white men in India, but here, with all his care, a third generation is unknown."

"Teutons in the tropics may have a temperature of 100 deg. or even 102 deg. without infection, and as this temperature destroys nerve tissue it is only a question of time when exhaustion and collapse occur."

"The sunstroke may come on from twelve to twenty-four hours after the exposure, and in the milder degrees of exposure it may be months before the parietic symptoms are noticeable—even after return to temperate climates."

Major Woodruff deals some heavy blows to generally accepted dictums when, for instance, he says:

"We moderns of the intelligent classes alone violate the mother's instinct to hide away in the dark with her baby, and we ruthlessly thrust it out into the sun's rays—actually strapping the poor little sufferers into their carriages and torturing them with the direct rays of the sun pouring down into their faces. Every now and then a physician has to call attention to the damage done to babies' eyes by this senseless practice," and

"It seems proved that, for the older men at least, the exhausted organism cannot nourish itself properly and that a little alcohol is needed to aid digestion and supply extra absorbable, digested and easily burned fuel and thus relieve the natural processes of part of their burden."

But to the layman the final chapter "Rules for White Men in the Tropics" is the portion of the book of greatest value, as it gives the directions of one thoroughly competent in the premises, which, if adhered to, the author believes, will produce the best results.

H. O. S. H.

Lectures on the War.*

A LITTLE pamphlet of forty-two pages gives an excellent account of the war up to the middle of August. The author gives an interesting account of the events leading up to the war, from the Asiatic point of view, and in the last chapter in summing up the campaign says: "The unqualified command of the sea on the side of Japan, and the impending fall of Port Arthur only a matter of days, and the destruction or dispersion of Kuropatkin's armies in sight, we may say that the first campaign is ended, so far as military lessons are concerned."

This was before the battles of Liao-Yang and Sha-ho.

The criticism of the battles is interesting.

The account of the Battle of the Yalu explains the success of the Japanese on rational grounds. He estimates the numbers engaged as 40,000 Russians and 50,000 Japanese.

The turning movement is explained and the attack on the center and left of the Russian position is put in a clearer light than in the ordinary accounts of the battle. "The Russians opened a heavy fire from their trenches some 800 yards distant. Seeing the difficulties of further continuing the advance in this direction, Nishi

*A Series of Five Lectures on the Russo-Japanese War. By Lieut. Col. H. D. Robson 2d Bat.. The Queen's Regiment. Gales & Polden, Aldershot. 1904.

cleverly withdrew his men to the cover of the river bank and changing his direction, etc." This is quite different from the account in the newspapers of the frontal attack at the point of the bayonet.

In the account of the Battle of Kinchau the author appears to be misled by his topographical sketch.

He says: "It is doubtful whether any troops in the world could have done what the Japanese did on this occasion."

When, however, it is considered that the Russians were subjected to a fire in front, flank and rear, and had been partially driven out of their works before the Japanese approached, it does not appear necessary to make such a distinction in their favor in comparison with white soldiers.

W. R. L.

The Opening of Tibet.*

THIS sumptuous royal octavo of 484 well-printed pages and fifty-two admirable illustrations contains an entertaining and exhaustive account of the very successful mission sent out two years ago by the British Government to Tibet. Previous attempts to reach Lhasa, its capital, have for centuries been attended with as much danger and difficulty as the efforts of Franklin, Kane, Greeley and Peary, to discover the North Pole. Colonel Younghusband, the British commissioner, and General MacDonald, the commander of the military escort, were honored with a fascinating task, which was conducted with skill, good judgment and moderation. The commissioner states: "That throughout the expedition we felt that our national honor was at stake, and down to the latest joined Sepoy, we bent ourselves to uphold and raise higher the dignity of our Sovereign and the good name of our country; to show that not even the rigors of a Tibetan winter, nor the obstinacy and procrastination of the two most stolid nations in the world, could deter us from our purpose; above all, to try and effect our purpose without resorting to force. If, as unfortunately proved to be the case, fighting were inevitable, we were determined still to show moderation in the hour of victory."

We can heartily commend the author of the volume as a most judicious and competent chronicler; full of enthusiasm for the wonderful scenery of the almost unknown land through which the mission forced its way, and successfully accomplished its purpose of opening the country to the outside world precisely as Perry opened Japan, in 1851. The numerous full-page illustrations can also be highly commended, and the frontispiece, representing "The Turquoise Bridge of Lhasa," is a fine example of a colored engraving. We regret to be compelled to conclude this brief notice of Mr. Landon's valuable volume with the expression of our surprise and regret, that a work of its high character should appear without an index. This omission, it may be expected, will be supplied in the second edition, which the author intimates will shortly appear with considerable additions.

JAMES GRANT WILSON.

**The Opening of Tibet*: An account of Lhasa and the country and people of central Tibet and of the progress of the mission sent there by the British Government in the year 1901-04; written with the help of all the principal persons of the mission, by Perceval Landon, special correspondent of the *Times*. Introduction by Col. Francis E. Younghusband. (Price \$3.80.) New York. Doubleday, Page & Co. 1905.

The Illini.*

IN "The Illini," published by A. C. McClurg & Co., of Chicago, Mr. Clark E. Carr, the author, presents an interesting volume in which a bundle of reminiscences and somber fact connected with the State of Illinois, from 1850 to the close of the Civil War, are cleverly bound together with a ribbon of romance so bright that it is always clearly discernible and serves to hold the reader's interest until, as the volume is closed, one is inclined to lisp "the end," that a single word may not escape.

The author is evidently a man of affairs, who has personally taken part in the making of his State and has known many of its public men, whose reputations, unrestricted by State lines, have become national or world wide. In reading the volume one seems to be in the presence of Lincoln, Grant, Logan, Yates, Douglas, Trumbull, Morrison, and a score of others, some of whom have gone to their rest, while the others are yet giving valuable service to the State and Country they helped to make. The reminiscent portion of "The Illini" deals particularly with the passions which swayed society at the close of the Civil War, of the political realignment they brought about, and of the position and parts in that great struggle played by the Illinois men; while in the romance portion, the foresight and wisdom given to the characters strongly suggest "The Vicar of Wakefield."

That a single volume, if well written and interesting, will make its author's reputation is evidenced by "The Illini," which it is pleasing to know that although the book did not appear until the frost of last December it has already gone through the first, second and third editions, and a fourth edition is about to be put upon the press.

The volume is well printed on excellent paper, and is illustrated with portraits of some of the noted Illinois men of the period to which it pertains.

H. O. S. H.

Famous Battles.†

THESE volumes contain descriptions of various conspicuous military and naval contests, beginning with "Nelson at Copenhagen" in April, 1801, by Herbert Russell, and ending with "The Ashantis Campaign in South Africa in 1874, under Sir Garnet Wolseley, by G. A. Henty. Among the writers whose descriptions are comprised are Col. W. W. Knollys; D. H. Parry; A. S. McKenzie, U. S. N.; H. M. Brackenbridge; Angus Evan Abbott; Archibald Forbes; Sir Walter Scott; Maj. Arthur Griffiths; Chas. Lowe and John Augustus O'Shea.

The accounts are not intended to be those solely of epoch-making events, but are also of desperate encounters. Thus Col. Forsyth's heroic defense of his party of fifty at the Arickaree Fork against the Sioux in 1868 is one of the tales of the volumes; Morgan's raid in 1863 into Kentucky and across the Ohio River into Indiana also forms another of the stories.

Austerlitz, Jena, the retreat from Moscow and Waterloo com-

**The Illini: A Story of the Prairies.* By Clark E. Carr. Chicago. A. C. McClurg. 1904.

†*Famous Battles of the Nineteenth Century.* Edited by Chas. Welsh. 2 vols. New York. A. Wessels Co. 1903.

prise the Napoleonic battles of the century described. The exploits of Decatur, the fights between the *Constitution* and the *Guerrière*, and between the *Chesapeake* and *Shannon* are the only naval events recounted. It will therefore be seen that there is no pretense at completeness in the list of famous battles. The purpose of the compiler "To show what war is in reality, and thus perhaps to inculcate the desire to avoid it," has probably been only in part at least accomplished, for the recital of brave deeds, more likely stimulates than deters others.

C. E. L.

With Kuroki.*

THE author followed the first Japanese Army, under Kuroki, from Korea to Liao-Yang. He became so attached to his yellow companions that he speaks of "our infantry," etc.

This makes the picture more vivid, but the first chapters which were evidently written in haste for the benefit of Collier's Weekly do not prepare the reader for the excellent judgment displayed in the last chapters "Aftermath" and "Strategy and Politics of the War." If the military reader will begin with these chapters he will be interested in the author and his work and find it worth his while to wade through the earlier chapters for the sake of information that is scattered through them.

He may be sure, at least, that he will see what the author saw, and if already more or less familiar with the subject he will find that all these chapters throw much useful light upon it.

Describing the successful attacks of the Japanese, he says:

"How far the bad marksmanship of the Russians was responsible for these marvels, which still puzzle the foreign world, is one of the problems of war. I am yet unconvinced that against good shots and a vigilance as sharp as their own the Japanese could have succeeded."

W. R. L.

The Napoleon Myth.†

REMARKABLE as are the feats and contortions of a skilled acrobat one is often tempted to wonder if they are not surpassed by the mental gymnastics in which some writers occasionally indulge, and this little book tends to confirm one in the belief that the latter are the more astonishing. The key-note of the introduction by Dr. Carus is struck in the opening sentence in which he declares that

"It is remarkable how much more of our historical traditions are saturated with mythology than we are commonly aware of, while, at the same time, legends, in spite of their fanciful dress, contain more of actual fact than, on superficial inspection, historical criticism seems to warrant."

"The Grand Erratum" is indeed a strange document, concocted by

*With Kuroki in Manchuria. By Frederick Palmer. Illustrated from photographs by Joseph Hare. New York, Charles Scribner's Sons.

†The Napoleon Myth. By Henry Ridgeley Evans. Containing a reprint of "The Grand Erratum," by Jean-Baptiste Pères, and an introduction by Dr. Paul Carus. The Open Court Publishing Co., 1905. London agents, Kegan Paul, Trench, Trübner & Co., Ltd., 4 vo., 65 pp.

a certain Jean Baptiste Pérès, a professor of mathematics and librarian of Agen, a little town in southern France. Its aim was to parody the attempt of the erudite M. Dupuis to prove that all religions could be explained as solar myths, and the result was a most remarkable satire. By a decidedly far-fetched process of reasoning he deduces that the name Napoléon means "Veritable Apollo," being derived from the Greek verbs *ἀπολλίω* and *ἀπολέω* (to kill, destroy or exterminate), and the prefix *νη* or *ναι* which is a strong affirmative. Like Apollo, he was born in an island in the Mediterranean, and the analogies between the name of his mother, Letitia (Latin, Latona), and the sun-god's mother *Λητώ*; between his four brothers and the four seasons; between his two wives and the earth and the moon, the wives of the sun; between the "Hydra of the Revolution" which Napoleon crushed and the python slain by Apollo; between the twelve marshals and the twelve signs of the zodiac; between Napoleon's Russian expedition and the course of the sun after the vernal equinox; and, lastly, between Napoleon's coming from Egypt and the east to rule over France until after Waterloo, when an English man-of-war carried him off over the western seas and the course of the sun, are traced with greatest ingenuity. Pérès sums up his argument by declaring that

"It has then been proved that the supposed hero of our century is nothing more than an allegorical personage, deriving his attributes from the sun. It follows that Napoleon Bonaparte, of whom so much has been said and written, never existed; and this fallacy, into which so many people have fallen headlong, arises from the amusing blunder of mistaking the mythology of the nineteenth century for history."

Such processes of reasoning remind me strongly of the celebrated syllogism:

Those who eat least are most hungry;
But those who are most hungry eat most;
Ergo—Those who eat least eat most.

In a very different vein is "The Mythical Napoleon. An Occult Study," by Henry Ridgeley Evans, which forms the principal part of the book. As its author truly says:

"It has been the fate of the great historical personages—warriors, priests, poets, kings and reformers—to have woven about them a tissue of myths and fables. . . . It is, then, the duty of the student of history to dissipate these myths and fanciful stories, to treat men as real beings and not as demi-gods."

It is quite natural that there should have grown up a legend, a cult, even a fetish worship, around the most brilliant, the most meteoric, the most theatrical character in history, who held the center of the world's stage at a unique period and under circumstances which will probably never have their counterpart again. The great Colossus took infinite pains to mold the opinion of posterity just as he made France and all Europe submissive to his yoke, and if he was able to compel the admiration of even his enemies, it is scarcely surprising that he succeeded in hypnotizing such an impressionable people as the French so effectually that his influence over them will, in all probability, never be completely destroyed; like "Banquo's

ghost, it will not down." Titanic in his capacity for labor, Titanic in his conception and striving after universal dominion, Titanic in the forces which he exerted over others, through the medium of his superhuman will, Titanic in the struggles which his insatiable ambition called forth, almost every incident of his unexampled career abounds in dramatic elements which readily lent themselves to the halo with which his superhuman personality has naturally been invested. No other man in history has been so much written about, so much discussed, and no other general, no other sovereign has ever been the object of such devotion, such passionate worship as the little man of whom Châteaubriand declared that, even after he had died a lonely exile at St. Helena, the mere apparition of a manikin clothed in his great gray coat and the big cocked hat would suffice to set all Europe on fire and make every sovereign tremble for his throne.

As Evans truly says: "There is, then, a legendary Napoleon and a real Napoleon. The real Napoleon is gradually coming to light, and the mythical one is fading into the background. Modern historians are taking the middle ground." The reader who is in anywise interested in the legendary Napoleon can spend a most charming half-hour with Mr. Evans' delightful study, which is profusely illustrated by excellent reproductions of some of the pictures which, like Raffet's wonderful conceptions, have contributed so much to perpetuate the glory of the Napoleonic legend. The appendix contains a reprint of the extremely interesting article that appeared in the *New York Tribune* of October 30th, 1904, in which the Paris correspondent, C. Inman Barnard, tells the history of the cocked hat worn by Napoleon at Waterloo which the painter, Gérôme, bequeathed to the Institute of France.

FREDERIC L. HUIDEKOPER.

An English-Spanish Manual.*

AN excellent little book in many ways, but requiring quite a little knowledge of Spanish on the part of the reader to enable him to use the book intelligently and advantageously.

This third edition, modified so as to be useful to civilians as well as to soldiers, is a distinct improvement on the first edition. A serious defect, however, still exists in the use of the written or graphic accent. No one system has been adhered to. Sometimes, as on page twelve, the final letters n, s, are treated as vowels for purposes of written accentuation, whereas more usually, they are treated as consonants. This is confusing, especially so to those who have merely an elementary knowledge of Spanish. It is now sixteen years since the Spanish Academy adopted the "new method" of accentuation, and a book like the present one under consideration should have been printed under that method.

The "English-Spanish Manual" should prove quite valuable to officers and to non-commissioned officers during their tour of duty in the Philippines. A number of ruled blank pages for notes, are inserted after each group of expressions and sentences.

P. E. T.

**English-Spanish Manual*. Third Edition. Revised by Maj. C. G. Morton Sixth U. S. Infantry. Kansas City. Hudson, Kimberly Pub. Co. 1904.

New Forces in Old China.*

THE above is the title of a well-written and carefully-considered volume by Arthur Judson Brown and published by the Fleming H. Revell Company. The author has divided his work into five parts. Part I, "Old China and Its People," gives just enough of the habits and customs of the Chinese and conditions in their country to convince the reader of the author's knowledge of his subject, both from observation and extensive reading. Parts II, III and IV are a discussion of the forces of foreign commerce, foreign politics and foreign religion now operating in the Empire, and Part V is devoted to speculation on the future results likely to proceed therefrom. The author seems to shy at the so-called "Yellow Peril," but justifies the Chinese if they should ever make it a reality.

"New Forces in Old China" adds an important and valuable volume to the literature of a field even somewhat overworked recently, and should be read by all who are interested in China or who desire facts to guide and govern them in speculation as to its future.

H. O. S. H.

Trials and Triumphs.†

THE volume with the above title, a product of the joint authorship of Capt. Hartwell Osborn and others, is as described in the subtitle, a "Record of the Fifty-fifth Ohio Volunteer Infantry" in the War of the Rebellion.

It is well written and goes into quite minute details of the operations in which the command was engaged, and is brightened with frequent anecdotes. It will be, undoubtedly, of great interest to all members of the organization and their families, and is so valuable as a minute history that it should find place in all historical collections aiming at completeness, and the reader cannot help wishing for willing hands to perform a like labor of love for all organizations. The work, which is profusely illustrated with portraits, maps and views, comes from the press of A. C. McClurg & Co., of Chicago, and has appended a list of the killed and wounded, a daily itinerary of the regiment's movements and a roster of its personnel.

H. O. S. H.

The Moscow Expedition.‡

THE brilliancy of Thiers' great work is universally recognized; but, on the other hand, every student of the Napoleonic era is fully aware that the "Bulletins of the Grand Army" do not attain more than approximate accuracy in chronicling the movements of the French armies, for the reason that they were not only compiled in haste from oftentimes meager information, but were issued for the manifest purpose of influencing the people not merely of France, but

**New Forces in Old China*.—An Unwelcome but Inevitable Awakening. By Arthur Judson Brown. New York, Chicago and Toronto: F. H. Revell Co. London and Edinburgh. 1904.

†*Trials and Triumphs*.—The Record of the Fifty-fifth Ohio Volunteer Infantry. By Capt. Hartwell Osborn and others (with ninety-four portraits, views and maps). Chicago. A. C. McClurg & Co. 1904.

‡*The Moscow Expedition*. Extracted from Thiers' "Histoire du Consulat et de l'Empire," vol. XIV; edited, with introduction and explanatory notes, by Hereford B. George, M. A., Fellow of New College, Oxford, author of "Relations of Geography and History," "Napoleon's Invasion of Russia," etc. Oxford, the Clarendon Press, 1904. 1 vol., 312 pp.

of all Europe. Thiers' history, therefore, suffered inaccuracy, inasmuch as he follows closely the accounts given by the bulletins, and it may, perhaps, be due to his frequent disregard for historical exactness, coupled with his fertile imagination and lofty conception, his graphic style and artistic ability, and heightened by his partiality, arising from an almost slavish worship of his hero, that he was able to produce a narrative which is acknowledged a classic, notwithstanding its defects. Its tremendous length has, however, frightened away the average reader whose limited time and interest cause him to seek some shorter and more accurate history and thus to lose much that would well repay him.

With the possible exception of the narrative of Waterloo, there is no part of Thiers' work equaling his description of the fatal Russian campaign which, as Mr. George declares, "has a dramatic unity and completeness that has scarcely a parallel in history, and it is narrated by Thiers with a vividness which might well make less eventful history attractive." In this respect Mr. George has conferred a genuine benefit on the general reader by placing within his reach such a splendid account of the greatest, and at the same time the most disastrous, military expedition ever known. He has wisely omitted the part which deals with the preliminaries and the initial movements of the campaign, the interest in which must necessarily be confined to purely military students, and he has compressed all their essentials into a succinct introduction of ten pages, thus paving the way thoroughly for Thiers' own narrative, which opens with the eve of the "Battle of the Giants," fought at Borodino or the Moscowa, the last defensive position covering the "holy city" of Moscow. Mr. George has done much to assist the reader who is not fully conversant with the military history of the First Empire, by the insertion of a chronological table of the chief events of the campaign, a list of the original authorities, both French and Russian, an index of persons and a geographical index in which the diversified spelling of the various names is clearly shown for their better identification. Another valuable aid is to be found in the admirable maps covering every essential feature reproduced from those that appeared in 1899 in Mr. George's own book.

The impossibility of doing full justice to any great work by means of a translation, however well made, is too generally known to admit of any criticism, and this undeniable fact may have been the reason why Mr. George has preferred to reproduce Thiers' text in the original, leaving to those who demand a history entirely in English his own excellent account of "Napoleon's Invasion of Russia," and those of Sir Robert Wilson, Alison, Jomini (translated by General Halleck) or Yorck von Wartenburg as translated in the Wolseley Series. However, it would assuredly have been preferable had the entire work been harmonious, published either wholly French or wholly in English, and surely some better method might have been devised for pointing out the historical inaccuracies of Thiers than the explanatory notes which have been relegated to the end of the work like a child's school-book. However, these are only minor defects and in nowise diminish the credit due him for putting this prose epic of Thiers within the reach of the general reader.

FREDERIC L. HUIDEKOPER.

Letters from an Old Railway Official.*

FROM time to time there have appeared, in more or less attractive form, stories dealing with American railroad life; occasionally the subject is treated with some attempt at truthfulness in describing the scenes and incidents of the plot, but more often the author draws upon the imagination.

In "Letters from an Old Railway Official to His Son, a Division Superintendent," Maj. Charles De Lano Hine, has recited in a series of chapters or letters certain phases of the profession familiar to all who follow its many walks, and made interesting reading for those whose impressions of the practical operations of a great road are mainly derived from views through a car window. The book is divided into twenty-four letters and a postscript, by Frank H. Spearman. The author's intimate knowledge of the various departments, and the rare skill with which he touches upon their management, lends to the work more than ordinary value.

In his sketches of character, as encountered within the "right-of-way," he has shown a keen sense of observation, and his deductions in this respect are singularly free from bias. To the executive officer, as well as to the more humble section hand, there will be found much that is instructive in this too brief little volume.

J. F. R.

Received for Library and Review.

Register of the Society of Colonial Wars in the District of Columbia, 1904.

Report of the Commission Appointed by the President to Investigate the Conduct of the War Department in the War with Spain. (Washington) Government Printing Office, 1899.

Mines and Quarries, 1902. Special Reports Department of Commerce and Labor, Bureau of the Census. (Washington) Government Printing Office, 1905.

Prison Life of Jefferson Davis. By Bvt. Lieut.-Col. John J. Craven, M.D. A new edition, published by G. W. Dillingham Co. (New York,) 1905.

Biographical Sketch of James Bridger, Mountaineer, Trapper and Guide. By Maj.-Gen. Grenville M. Dodge. (New York,) 1905.

The War Between the Union and the Confederacy, and Its Lost Opportunities. By William C. Oakes, Colonel in the Confederate Army, etc. (New York and Washington.) The Neale Publishing Co., 1905.

Impressions of a Company Commander. By Le Capitaine Breveté Du Génie Patez. Translated from *Revue du Génie Militaire*, by Capt. J. R. Williams, Capt. F. R. Shunk and Lieut. E. M. Rhett, Corps of Engineers, U. S. A. (Washington.) 1905.

James Lawrence, Captain, United States Navy, Commander of the Chesapeake. By Albert Gleaves, Lieut.-Commander, U.S.N. (New York.) G. P. Putnam's Sons, 1904.

**Letters from an Old Railway Official to His Son, a Division Superintendent.* By Maj. Charles De Lano Hine. Chicago. The Railway Age. 1904.

- A Military and Naval Dictionary*, compiled by Maj. John P. Wisser U. S. A. and H. C. Gauss, Esq., of the Navy Department. (New York.) L. R. Hamersly Co., 1905.
- The Use of Troops in Civil Disorder, From the Legal and Tactical Standpoint.* A Lecture. By Col. Edward E. Britton, N. G. N. Y., 1904.
- Transportation of Troops and Material.* By Maj. Chauncey B. Baker, Q. M. Department, U. S. A. (Kansas City, Mo.) Franklin Hudson Publishing Co., 1905.
- Handling the Straight Army Ration and Baking Bread.* Prepared by Capt. L. R. Holbrook, Fifth Cavalry. (Kansas City, Mo.) Franklin Hudson Publishing Co., 1905.
- Catechismal Edition, Infantry Drill Regulations, U. S. A.* By Brig.-Gen. Wm. F. Spurgin, U. S. A. (Kansas City, Mo.) Franklin Hudson Publishing Co., 1904.
- Soldier's Handbook of Target Practice.* (Kansas City, Mo.) Franklin Hudson Publishing Co., 1904.
- History of the Military Canteen.* By Lieut.-Col. Philip Reade, Insp.-Gen., U. S. A., Major Fourth Infantry. (Chicago.) C. J. Burroughs, 1901.
- Administration, Organization and Equipment Made Easy.* By Maj. S. F. Banning, Second Battalion, Royal Munster Fusiliers. Fifth Edition. (London.) Gale & Polden, Ltd., 1905.
- A Brief History of Works Erected for the Defense of Portland, Maine.* By C. F. Porter. (Washington Barracks, D. C.) Press of the Engineer School, 1905.
- A History of Battery "A" of St. Louis.* With an Account of the Early Artillery Companies from Which It Is Descended. By Valentine Mott Porter. (St. Louis.) Missouri Historical Society, 1905.
- Life and Services of William Farrar Smith, Major-General U. S. Vols. in the Civil War.* By James Harrison Wilson, Major-General, U. S. V. (Wilmington, Del.) The John M. Rogers Press, 1904.
- A History of the Twenty-second U. S. Infantry.* Compiled from Official Records, by Maj. O. M. Smith, U. S. A., Capt. R. L. Hamilton, Adjutant Twenty-Second Infantry, and Capt. W. H. Wassell, Twenty-Second Infantry.
- The Crisis of the Confederacy.* By Cecil Battine, Captain Fifteenth The King's Hussars. (New York.) Longmans, Green, & Co., 1905.
- Report of Test of Metals and Other Materials for Industrial Purposes,* made with the U. S. Testing Machine at Watertown Arsenal, Mass. (Washington.) Government Printing Office, 1904.
- The Yellow War.* By "O." (New York.) McClure, Philips & Co., 1905.
- The Medal of Honor. A Story of Peace and War.* By General Charles King. (New York.) The Hobart Company, 1905.
- Port Arthur: Three Months with the Besiegers.* By Frederic Villiers. (London and New York.) Longmans, Green, & Co., 1905.
- The History of the Victoria Cross.* By P. H. Wilkins. (London.) A. Constable & Co., 1904. (New York.) - E. P. Dutton & Co.

Editor's Bulletin.

WE take pleasure in acknowledging, on behalf of the Military Service Institution, the generous and graceful editorial tribute to its work and worth to the Army, which appeared in a recent number of the *Journal of the U. S. Cavalry Association*. It was apparently prompted by an examination of the General Index to the contents of our Journal—1880-1904.

Thanks
to the
Cavalry
Journal.

The testimony thus borne by our younger contemporary to this evidence of "The professional culture existent among us to-day" cannot fail to stimulate the Army to continue to bring "the best thoughts of its most earnest officers before the whole service, and the needs of the service intelligently expressed before the public at large."

To this end we heartily echo the advice of our cavalry colleague as follows:

"Every officer of the Army ought to be a member of the Military Service Institution."

The
Santiago
Prize.

The "Santiago Prize for 1904" has been awarded to Lieut. TOWNSEND WHELEN, Thirtieth U. S. Infantry, for a paper published in this journal (Nov., 1904) entitled "Scientific Coaching of the Rifleman."

The Han-
cock Prize,
1904-5.

Lieut.-Col. NATHAN S. JARVIS, N. G. N. Y. (Captain U. S. A. retired) has been awarded the Hancock Prize of \$25 for a paper entitled, "Physical Preparedness and the Organized Militia."

Amend
Rules
Hancock
Prize.

At a stated meeting of the Executive Council, April 12, 1905, it was "Resolved that the rules for the Hancock Prize, which fix the maximum limit at '12,000 words,' shall be and they are amended to read '6000 words.' To take effect July 5, 1905, except that papers published before that date shall have the benefit of the original maximum limit."

Short
Paper
Prizes.

At a recent meeting (April 12) of the Executive Council, it was decided to dispense, after July 1, 1905, with the 2d grade prizes (\$25) for short papers, thereafter retaining only the provision for the \$50 prizes.

Badge
of the
M. S. I.

The demand for the bow-knot badge of the Institution continues, attesting to its popularity. It may be obtained on application to the Secretary. The badge, complete, with gold monogram is 75 cents; ribbons may be renewed at 25 cents each.

Types
and
Traditions.

A number of favorable responses have been received to our invitation to contribute reminiscences to the new historical series "Types and Traditions of the Old Army" for early publication in the JOURNAL.

The term "Old Army" relates to the men and events of the American Revolution, War of 1812, Mexican and Civil Wars, 1766-1866.



A complete *Register of Membership of the Institution* is in preparation and will be published during the coming fall.



Journal
of the
Military
Service
Institution
1878
1905

Governor's
Island
N. Y. H.

THE JOURNAL

JULY-AUGUST, 1905



OME of the papers approved for early publication in this JOURNAL.

I. "MODERN ARMS, MODERN WARFARE AND GOVERNMENTS."—By John Brisben Walker, Esq., Editor Cosmopolitan Magazine.

II. "MUSINGS OF A SUPERANNUATED SOLDIER." (Being advance sheets from a forthcoming work). By the late Major James Chester, U. S. Artillery.

III. "AN AMERICAN UNIFORM FOR THE U. S. ARMY."—By Major Cassius E. Gillette, Corps of Engineers.

IV. "JUNGLE TACTICS."—By Lieut. Louis McL. Hamilton, 14th U. S. Infantry.

V. "THE PORTO RICO PROV. REGT. OF INFANTRY."—(Ill.) By S. Krausz, Esq.

VI. "ORGANIZATION, MAINTENANCE AND TRAINING OF FIELD-BATTERIES IN THE ORGANIZED MILITIA."—By Lieut. John F. O'Ryan, N. G. N. Y.

VII. "A SYSTEM OF SEARCH-LIGHT DEFENSE."—By Captain William D. Webber (late) M. V. M.

VIII. "A VISIT TO THE RUSSIAN TRAINING CAMP AT MOSCOW."—By Capt. D. W. C. Falls, Adjutant 7th Regt., N. G. N. Y.

IX. "TYPES AND TRADITIONS OF THE OLD ARMY."
Extracts from the diary of Colonel Jeduthan Baldwin, Continental Engineers 1774-80 (Captain in French and Indian War).—Edited by Col. John H. Calef, U. S. A. "Memoir of Colonel Henry Burbeck," 1st U. S. Artillery 1802 (Captain Continental Artillery, Revolutionary Army), by Col. A. B. Gardiner, U. S. A. (Illustrated); also "Service at Fort Rice, D. T., 1866-67," by Gen. William M. Wherry, U. S. A.

THE PUBLICATION COMMITTEE invites contributions of original papers, translations and comments upon current topics. Attention is called to "Gold Medal," "Seaman," "Short Paper," and "Santiago" prizes described elsewhere.

The Military Service Institution.

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Lieut. W. H. JOHNSON, 8th Infantry.

Executive Council.

Term ending 1911.

Major D. L. BRAINARD, Subsistence Dept.
Captain F. W. COE, Artillery Corps.
Lieut. Colonel E. E. DRAVO, Subsistence Dept.
Brig. Gen. A. L. MILLS, United States Army.
Colonel F. A. SMITH, Eighth Infantry.
Bvt. Major-Gen. A. S. WEBB, (late) U. S. A.

Term ending 1909.

Major G. S. BINGHAM, Quartermaster's Dept.
Colonel J. E. GREER, Ordnance Dept.
Colonel W. R. LIVERMORE, Corps of Eng's.
Major C. E. LYDRCKER, N. G. N. Y.
Major A. MURRAY, Artillery Corps.
Col. C. C. SNIFFEN, Pay Dept.

Term ending 1907.

Finance Committee.

Gen. BARRIGER.
Lieut. Col. DRAVO.

Bvt. Brig.-Gen. D. APPLETON, N. G. N. Y.
Colonel E. E. BRITTON, N. G. N. Y.
Brig. Gen. F. D. GRANT, U. S. Army.
Colonel H. O. S. HEISTAND, Asst. Adjt. Gen.
Major. A. S. CUMMINS, Artillery Corps.
Lieut. Colonel H. S. TURRILL, Medical Dept.

Library Committee.

(Vacancy.)

Publication Committee.

Gen. BARRIGER, Gen. RODENBOUGH, Col. GREER and Col. SMITH.

MEMBERSHIP AND DUES.

Membership dates from the first day of the calendar year in which the "application" is made, unless such application is made after October 1st, when the membership dates from the first day of the next calendar year.

Initiation fee and dues for first year \$2.50; the same amount annually for five years subsequently. After that two dollars per year. This includes the Journal. Life membership \$50.

NOTE.—Checks and Money Orders should be drawn to order of, and addressed to, "The Treasurer Military Service Institution," Governor's Island, New York City. Yearly dues include Journal.

Please advise promptly of changes of address.



Gold Medal—1905.

First Prize—Gold Medal, \$100 and Life Membership.

Second Prize—Silver Medal, Honorable Mention and \$50.

I.—The following Resolution of Council is published for the information of all concerned:

Resolved, That a Prize of a Gold Medal, together with \$100 and a Certificate of Life Membership, be offered annually by THE MILITARY SERVICE INSTITUTION OF THE UNITED STATES for the best essay on a military topic of current interest, the subject to be selected by the Executive Council, and a Silver Medal and \$50 to the first honorably mentioned essay. Should either prize be awarded more than once to the same person, then for each award after the first, a *Clasp* shall be awarded in place of the medal.

1. Competition to be open to all persons eligible to membership.

2. Each competitor shall send three copies of his essay in a sealed envelope to reach the Secretary *on or before January 1, 1906*. The essay must be strictly anonymous, but the author shall adopt some *nom de plume* and sign the same to the essay, followed by a figure corresponding with the number of pages of MS.; a sealed envelope bearing the *nom de plume* on the outside and enclosing full name and address, should accompany the essay. This envelope to be opened in the presence of the Council after the decision of the Board of Award has been received.

3. The prize shall be awarded upon the recommendation of a Board consisting of three suitable persons chosen by the Executive Council, who will be requested to designate *the essay deemed worthy of the prize*; and also in their order of merit those deserving of honorable mention.

In determining the essay worthy of the prize, the Board will be requested to consider its professional excellence, usefulness and valuable originality, as of the first importance, and its literary merit as of the second importance. Should members of the Board determine that no essay is worthy of the prize, they may designate one or more essays simply as of honorable mention; in either case, they will be requested to designate one essay as first honorable mention. Should the Board deem proper, it may recommend neither prize nor honorable mention. Should it be so desired, the recommendation of individual members will be considered as confidential by the Council.

4. The successful essay shall be published in the Journal of the Institution, and the essays deemed worthy of honorable mention shall be read before the Institution, or published, at the discretion of the Council, which reserves the right to publish any other essay submitted for a prize, omitting marks of competition.

5. Essays must not exceed ten thousand words, or twenty-five pages of the size and style of the JOURNAL (exclusive of tables), nor contain less than five thousand words.

II.—The Subject selected for the Prize Essay of 1905, is

THE ENLISTED MAN'S CONTRACT WITH THE GOVERNMENT: THE MUTUAL OBLIGATION IT IMPOSES AND HOW ITS VIOLATION MAY BEST BE AVOIDED.

III.—The names of the gentlemen selected for the Board of 1905 are:

General ROBERT S. OLIVER, Ass't Secretary of War.

Brigadier General JOHN W. CLOUS, U. S. Army.

Colonel JAMES REGAN, 9th U. S. Infantry.

Governor's Island, N. Y.,

Jan. 1, 1905.

T. F. RODENBOUGH,

Secretary.



The Seaman Prize.

MAJOR LOUIS L. SEAMAN, M.D., LL.B.
(late Surgeon, 1st U. S. Volunteer Engineers), has founded a prize in the MILITARY SERVICE INSTITUTION OF THE UNITED STATES by contributing annually

One hundred dollars in Gold

for the best Essay, the subject to be named by himself, and to be approved by the Executive Council.

The subject proposed and adopted for the year 1905 is:

**HOW FAR DOES DEMOCRACY AFFECT THE ORGANIZATION AND
DISCIPLINE OF OUR ARMIES, AND HOW CAN ITS INFLUENCE
BE MOST EFFECTUALLY UTILIZED?**

Competition is open to all Officers or ex-Officers of the Army, Navy, Marine Corps, Marine Hospital Service, Volunteers or National Guard.

Three copies of the Papers on the subject must be transmitted to the Secretary of the Institution, to reach his office not later than Nov. 1, 1905. Each Essay must be limited to 15,000 words, exclusive of statistics.

All other conditions will apply as provided for the Annual (Military Service Institution) Gold Medal Prize.

The names of the gentlemen selected for the Board of 1905 are:

Major General JOHN C. BATES, U. S. Army.

Brigadier General CAMILLO C. C. CARR, U. S. Army.

Brigadier General FREDERICK D. GRANT, U. S. Army.

T. F. RODENBOUGH,

Secretary.

GOVERNOR'S ISLAND, N. Y.,

Jan. 1, 1905.

Prizes for Short Papers.

Extract from the Minutes of a Stated Meeting of the Executive Council of the Military Service Institution of the United States, Major General Brooke, V. P., in the Chair, held at Governor's Island, N. Y. H., March 14, 1902.

* * *

Resolved: That the regulations governing the award of Annual Prizes be and they are amended as follows (also am. April 12, 1905):

Hancock (Infantry) Prize.

The Hancock Prize: \$50, and Certificate of Award to be given for the best original essay or paper, the award to be made under existing regulations for the Gold



Medal, excepting that the paper shall contain not less than 2,500 words nor more than 6,000 words,* and that but one copy of such papers shall be required from the author; said essay to be critical, descriptive, or suggestive, on subjects directly affecting the Infantry or Foot Service, which have been published in the JOURNAL of the Institution during the twelve months ending March 1 of each year and which has not been contributed in whole or in part to any other association, nor has appeared in print prior to its publication by the Institution, nor has been published in the JOURNAL in any previous year, and excluding essays for which another prize has been awarded. The certificate of award to be signed by the President and Secretary of the Institution and the award to be made upon the recommendation of a committee of three members of the Institution, not members of the Executive Council, two of whom shall be Infantry officers to be appointed, annually, by the President; the award to be made and announced not later than May 1 of each year.

Fry (General) Prize.



The Fry Prize: to be the same as the Hancock Prize and awarded upon the recommendation of a board of three members, not members of the Executive Council, under the same regulations for papers or essays appearing in the JOURNAL during the twelve months ending Sept. 1 of each year, on subjects directly affecting the military service and not otherwise provided for; with the announcement not later than November 1.

Buford (Cavalry) Prize.



The Buford Prize: to be similar to the Hancock Prize, and to be awarded on the recommendation of a board of which two members shall be Cavalry officers, for papers published in the JOURNAL during the twelve months ending May 1 of each year, on subjects directly affecting the Cavalry or Mounted Service; with announcement not later than July 1.

Hunt (Artillery) Prize.



The Hunt Prize: to be similar to the Hancock Prize, and to be awarded on the recommendation of a board of which two members shall be Artillery officers, for papers published in the JOURNAL during the twelve months ending July 1 of each year, on subjects directly affecting the Artillery Service; with announcement not later than September 1.

*All papers eligible under these rules published prior to July 5, 1905, shall be entitled to maximum of 12,000 words. (Amended April 12, 1905.)



The Santiago Prize.

THE NATIONAL SOCIETY OF THE ARMY OF SANTIAGO DE CUBA has founded a prize to be known as the "Santiago Prize," by contributing, annually, the sum of

Fifty Dollars

"for the best original article upon matters tending to increase the efficiency of the individual soldier, the squad, company, troop, or battery, published in the Journal of The Military Service Institution of the United States, during the twelve months ending December 1st in each year.

"The award to be made by the Council of the Military Service Institution upon the recommendation of a board of three suitable persons, selected by the President of the National Society of the Army of Santiago de Cuba, who shall report their recommendations on or before January 1st of the following year.

"Conditions to be the same as those prescribed for the Hancock Prize (see notice 'Short Paper Prizes'), Military Service Institution, excepting that the competition shall be limited to officers of the Regular Army or of the National Guard below the grade of major, and that papers shall not be less than 2500, nor more than 5000 words in length."

The names of the gentlemen selected for the Board of 1905 are:

Major General J. FORD KENT, U. S. Army.

Brigadier General JOHN F. WESTON, U. S. Army.

Brigadier General GEORGE H. HARRIES, D. C. Militia.

T. F. RODENBOUGH,

GOVERNOR'S ISLAND, N. Y.,
January 1, 1905.

Secretary M. S. I.

Prizes for Short Papers.

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Fry (General) Prize.

The Fry Prize: to be the same as the Hancock Prize and awarded upon the recommendation of a board of three members, not members of the Executive Council, under the same regulations for papers or essays appearing in the JOURNAL during the twelve months ending Sept. 1 of each year, on subjects directly affecting the military service and not otherwise provided for; with the announcement not later than November 1.



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Hunt (Artillery) Prize.

The Hunt Prize: to be similar to the Hancock Prize, and to be awarded on the recommendation of a board of which two members shall be Artillery officers, for papers published in the JOURNAL during the twelve months ending July 1 of each year, on subjects directly affecting the Artillery Service; with announcement not later than September 1.



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Brigadier General GEORGE H. HARRIES, D. C. Militia.

T. F. RODENBOUGH,
GOVERNOR'S ISLAND, N. Y., Secretary M. S. I.
January 1, 1905.

Publisher's Department.

IDEAL 30-40 SHELL CHAMFERING REAMER

Many military shooters overlook the necessity of chamfering the inner sharp edge of the muzzle of the 30-40 Krag shell when reloading with cast alloyed bullets. It is very essential that this should be done to prevent the sharp edge of the muzzle of the shell from cutting or scraping the softer bullet when being inserted.

The ammunition manufacturers performed this operation on all shells before the metallic-covered bullets were used, and they continue to do so in



all cases where the hard metal-covered bullets are to be used. They have, however, dropped the operation as a saving to themselves in shells where the metal-covered bullets are used.

These shells, however, should be chamfer reamed when they are to be reloaded with cast bullets. The cut here illustrates a handy implement for doing that work. The reamer is made of tool steel, hardened, tempered and ground to the proper shape. The shells require to be reamed but once. That once, however, should be done to insure the best work. Price of reamer \$1.

* * *

THE USE OF GLYCOZONE

BY C. H. POWELL, A.M., M.D., ST. LOUIS, MO.

(Abstract from *New England Medical Monthly*.)

It is surprising how physicians fall into habits regarding the use of certain agents in their practice, and how loth they are to resort to something new. No doubt this fact exemplifies the maxim: "Be not the first by whom the new is tried, nor yet the last to lay the old aside." This saying, were it put into active practice, would interdict the use of any new drug or remedy, as from the very nature of things a leader must be acknowledged, and that leader would himself violate the above maxim. In the treatment of certain diseases the well-known glycerole of tannin tampon, or the use of glycerin and Goulard's solution, or glycerin with other astringents, has been for years recognized and appreciated by gynecologists over the entire world. In the clinics, solutions of these agents are ever at hand. It has often occurred to the writer that many of the solutions used by gynecologists favored the development of bacilli. A sample bottle of glycozone which came to my desk several months ago although not referred to in the treatment of diseases of women, appealed to me. Accordingly, in view of the highly oxygenated properties of the remedy, which I believed would necessarily possess bactericidal properties, I was induced to try glycozone in my gynecological practice; the results were so pronounced, and the beneficial influence of the remedy so decided and permanent, that I have for several months past persistently resorted to glycozone in preference to anything else in my local work.

